

TRANSFORMING LIVES FOR THE BETTER WITH INTERACTIVE METRONOME®

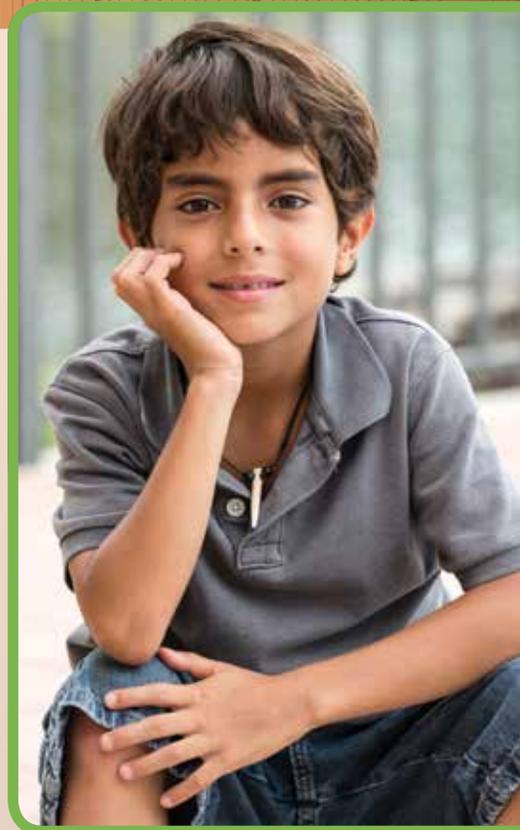
Ethan, an 8-year-old boy, who had never received a therapeutic evaluation before, was experiencing symptoms typical to ADHD, anxiety and developmental delay, so his mom took him to a psychologist. The psychologist noticed Ethan had some fine motor difficulty and referred him to an occupational therapist. His mom informed the OT that Ethan wasn't very coordinated, that his handwriting was illegible and that he often seemed "slow" or "clumsy" yet seemed to rush through everything. She confided in the OT that Ethan had difficulty playing sports and keeping up with other children or even his own family. As a way to decipher what the root cause of Ethan's difficulties, Interactive Metronome® was suggested.

Interactive Metronome® (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.

In addition to IM's assessments, the Bruininks-Oseretsky Test of Motor Proficiency was administered.

Ethan's drawing and fine motor control skills were very poor and he had great difficulty on all timed tasks. His bilateral coordination was also very poor, he struggled performing jumping jacks and other synchronized movements.

Prior to IM training, a Long Form Assessment (LFA) is given; the LFA takes approximately 30 minutes to complete and consists of 14 exercises using both the upper and lower body. The LFA provides data regarding a client's ability to process time, focus, and plan/execute voluntary fine motor sequences. It is also used periodically throughout IM training to assess gains and areas of improvement. When it was time for Ethan to perform the LFA, he showed extreme impulsivity. Despite being able to complete all 14 of the exercises, his quality of movement was very poor. On the Pre-LFA, he achieved a score of 334.9 MS, putting him into the extreme deficiency range.



Bruininks-Oseretsky Test of Motor Proficiency (BOT-2)			
	Scale Score	Age Equivalent	Descriptive Category
Fine Motor Precision	10	6.9 - 6.11 Years Old	Below Average
Fine Motor Integration	9	6.0 - 6.2 Years Old	Below Average
Manual Dexterity	10	7.0 - 7.2 Years Old	Below Average
Bilateral Coordination	9	5.4 - 5.5 Years Old	Below Average

Age	6	7 - 8	9 - 10	11 - 12	13 - 15	16+
Extreme Deficiency	280+	270+	260+	240+	215+	200+
Severe Deficiency	175-279	170-269	160-259	155-239	150-214	147-199
Below Average	120-174	90-169	80-159	75-154	72-149	70-146
Average	90-119	65-89	55-79	45-74	43-71	41-69
Above Average	56-89	45-64	38-54	36-44	33-42	30-40
Exceptional	40-55	32-44	28-37	26-35	23-32	22-29
Superior	Below 40	Below 32	Below 28	Below 26	Below 23	Below 22



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The majority of Ethan's hits were very early and it quickly became clear why he was so uncoordinated. It was as if there were no strong connections between his right or left side or his upper or lower body. Ethan often became frustrated with the exercises as he was able to picture what he needed to do, but just could not follow through with the action.

At the start of IM training, Ethan needed several breaks for water and a "breather" in between exercises. In order for Ethan to get a little rest, he would perform some exercises sitting and alternating between upper and lower body exercises.

With some modifications and creativity, things began to click very quickly with Ethan. His MS averages would improve by 50-100 MS at a time! Halfway through his IM training, the reports from school started coming back positive. His teacher noted that he was taking longer with his class work and was not bumping into everyone when they got in line. His teacher said that



she would swear that Ethan was not the same child that entered her room at the beginning of the school year. He was even paying attention in class, raising his hand to answer questions, playing with other children at recess and he was writing all of his assignments legibly!

On Ethan's last visit he was able to perform the Attend Over Time assessment (AOT). He now had the endurance to complete way more than 500 repetitions, he wasn't sweating or out of breath. He would choose to do exercises while standing and not need to sit down! Ethan was becoming more coordinated and didn't trip as he walked down the hall and would even carry-on with a conversation, he was so much more interactive.

The BOT-2 was administered again and his scores were now all in the average range.

Bruininks-Oseretsky Test of Motor Proficiency (BOT-2)			
	Scale Score	Age Equivalent	Descriptive Category
Fine Motor Precision	13	8.0 - 8.2 Years Old	Average
Fine Motor Integration	17	10.0 - 10.2 Years Old	Average
Manual Dexterity	17	9.0 - 9.8 Years Old	Average
Bilateral Coordination	7	10.9 - 10.11 Years Old	Average

On the Post-LFA, his score was 32.1 MS which is in the exceptional range. A major improvement from when he first started IM training. The simple clapping exercises were much more natural for him and his movement seemed effortless. His overall improvement was 91.4%. He and his mom were so proud as they left training that day. Now that Ethan completed OT, he was going to try out guitar lessons and little league, things that they would have never attempted just a few months before. Ethan's mom said that she can not even put into words the progress that she has seen in her son. Her son was now calm and collected, coordinated and interactive - she said that she could just watch him run and skip and play all day!

-Wendy Harron, OTR/L



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