



# THE interactive METRONOME and STUTTERING

Interactive Metronome (IM) is a high-tech, neurologically based treatment tool. It was initially employed to help children with learning and developmental disorders such as: Autism Spectrum Disorder, Cerebral Palsy, Sensory Integration Disorder, Non-Verbal Learning Disorder, Auditory Processing Disorders, and ADD/ADHD. The outcomes of a number of research projects in these areas are a testimonial that IM does work in the remediation of these disorders.

In addition, IM has revolutionized the treatment of acquired neurological disorders such as CVAs, Traumatic Brain Injuries, Balance Disorders, and Parkinson's Disease.

So what about the use of IM in the treatment of stuttering? Almost no research has been conducted in the use of IM and the treatment of stuttering. As a specialist under the Stuttering Foundation of America, and a personal witness to the positive therapeutic outcomes in the IM treatment of so many other disorders, I pondered this question. I work with both children and adults who stutter, and use a great deal of stuttering modification therapy, as well as fluency shaping techniques. These are the tried and true methods used by those who treat stuttering, and they are highly effective. It is well known by most Speech and Language Pathologists that 75-80% of children who begin to stutter before the age of three, will cease the stuttering behavior without treatment. However, if a child has been stuttering for 5 months or longer, and has other concomitant issues, which a well trained specialist knows to look for, one can predict that this child will most likely not recover without intervention. When the decision is made to treat the child, both direct and indirect methods are employed. If the child's parents are educated and become involved in the process, a child can be treated, on average in a period of six sessions. The number of sessions, of course, varies from child to child, but treatment is rarely longer than three months. So, if we know that we can successfully treat a child who stutters with Stuttering Modification Therapy, Fluency Shaping, and parental education, why bother with using IM for the treatment of stuttering? The answer walked into my office on May 18 in the year 2007.

## Case Study

"William" was a six-year, eight-month old boy, who was on the severe end of the stuttering curve. William liked to talk, but was reportedly becoming increasingly frustrated. Although he had been treated by his school's clinician for several years, his mother reported that his stuttering had only continued to become more severe. An initial evaluation of William's speech revealed that he presented with 83% stuttered-like disfluency (SLD) in a sample of three-hundred words.

Over the course of the next few months, William refused to engage in any form of treatment. For whatever reason, he would not participate. Thus, I educated his family about how to react to William's stut-

tering behavior, and decided to use the Interactive Metronome. The results were apparent after William used IM for the first time. His mother reported that he was able to produce several sentences in a row without stuttering on the ride home from therapy. After each session William's stuttering improved. However, this phenomenon did not initially maintain, and insurance coverage would only provide for one session per week. Thus, in September, 2007, his parents made the decision to buy the IM Home, a version of IM which can be used at home after initial training by a certified IM provider. William was required to use the IM for 15 to 20 minutes per day. Each week he would come into my office and I would take a speech sample. As the weeks progressed, the speech samples revealed that both the quantity and quality of William's stuttering were changing. He had fewer SLDs, and of these SLDs, fewer were sound/syllable repetitions, and a greater number were whole word repetitions and Non-Stuttered Like Disfluencies (NSLDs)- a trend which is seen in recovery.

William's home routine became a consistent use of 15 to 20 minutes of IM per day for 5 to 7 times per week. I saw William on April 4, 2008, and after 7 months of intensive IM therapy, a 300 word speech sample revealed 3 SLD, in the form of whole-word repetitions. His teacher, Ms. S., reported that William is fluent "most of the time", but does display some "bumpy speech" when he is required to read aloud.

William no longer presents with what is clinically defined as stuttering. While no one is 100% fluent, stuttering is defined as three SLDs per 100 words. Thus, this case study concludes that Interactive Metronome therapy has been responsible for William's recovery.

William no longer uses IM on a consistent basis. He is able to maintain a level of fluency consistent with that of a person who does not stutter. His mother reported that other positive changes have evolved since the onset of William's use of IM, including elevated attention. William has always been a good student, but academic improvements have been noted.

A great deal more research needs to be performed in regard to the use of the Interactive Metronome and its efficacy in treating stuttering. William's case is simply a testimony to the success of a single child. However, a pilot study is underway, which aims to further uncover the relationship between the Interactive Metronome and the treatment of stuttering. For more information regarding IM, please visit [www.interactivemetronome.com](http://www.interactivemetronome.com).

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