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Research Article

## The Benefit and Efficacy of a Therapeutic Program for Attention Deficit Disorder

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### Abstract

The effectiveness of a therapy program for Attention Deficit Disorder (Interactive Metronome that we use as an individually designed program) to remediate attention deficits at a private clinic was assessed. Neuropsychological evaluation was administered prior to intervention to establish the diagnosis and following therapeutic intervention to ascertain the benefit of the program. Specific neurocognitive testing provides the separation of a genetic attention disorder from attention subsequent to other diagnoses, as well as the necessary information to determine the exact treatment plan that will benefit the patient in an outpatient clinic setting. Results were compared.

**Keywords:** Therapy; Attention deficit disorder; Medication; Interactive metronome

## 1. Introduction

Research has identified positive effects of the use of Interactive Metronome (IM) for an ADHD population. Significant differences were found for boys between pre and posttreatment factors on performance in areas of attention, motor control, language processing, reading and parental report of improvement in regulation of aggressive behavior. Medication has typically been used for treatment of ADD/ADHD, however medication management tends to only treat symptoms topically, alleviating the symptoms temporarily. Medication side effects suggest that long term usage is not an effective management strategy. Consequently, the search is for an effective program to manage the symptoms of ADD/ADHD over the long term [1].

## 2. Method

Adults and children were referred for the assessment of attention deficits and diagnosed with ADHD (age 9 to 67 years, n= 31). Individuals were diagnosed with ADHD Inattentive Type with a specific test battery of neurocognitive tests used for almost thirty years to document a genetic attention disorder (twenty years of testing published with the same measures to rule in or rule out a genetic attention disorder). Re-administration of specific tests was completed following treatment: The Stroop Color-Word Test, Symbol Digits Modalities Test (written and oral), Trail Making Test A, Symbol Search and PASAT [2].

Treatment involved the use of a specific program (Interactive Metronome) modified for this facility. The therapy requires the individual to meet specific criteria for moving parts of their body in precision timing and to do so in a fluid manner. When individuals meet specific criteria for each of the exercises, the program is deemed therapeutically completed. We have set the criteria lower than typically suggested for the program given initial test results which revealed positive test findings with a more rigorous criteria. Evaluation occurs approximately one month after completing the program [3].

IM has been used as part of a therapeutic program combined at this facility with cognitive behavioral treatment addressing emotional symptoms as well as specific goals of structure, organization, good sleep hygiene, improving study habits and motivation. Treatment consists of approximately 25 to 30 therapy sessions of approximately 60 minutes in length, necessary to see differences in behavior, as well as the IM scores in a sufficiently successful manner to end treatment. The time frame can range from three months to six months depending upon the frequency of the visits [4].

### 3. Results

Areas of distractibility, speeded processing and information processing improved following treatment. Paired samples t-tests revealed significant differences between pre and post treatment scores on the Stroop test ( $p=0.06$ ), SDMT-W ( $p=0.002$ ), SDMT-O ( $p=0.000$ ), Trails A ( $p=0.012$ ), Symbol Search ( $p=0.000$ ), PASAT trial 1 ( $p=0.005$ ), PASAT trial 2 ( $p=0.007$ ) and PASAT trial 3 ( $p=0.002$ ).

### 4. Conclusion

Findings indicate that primary attention deficit areas, assessed prior to and following attention treatment, evidenced improvement; distractibility, speeded processing and information processing. The therapeutic program utilized in a therapeutic context appears to be effective in remediating attention deficits in a clinical population.

A limitation to this study is that it was completed in a clinical population that did not allow for an experimental group who received alternative training or no training at all.

### References

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