

Brain Injury

“Adam”,



a 28 year-old male, was admitted to a brain injury program for cognitive rehabilitation at HealthSouth Outpatient Center at The Bridge. Two years earlier, he suffered an anoxic episode, seizures and went into a coma for two weeks due to adverse drug interactions.

Adam suffered a wide range of both cognitive deficits (impairments in auditory processing, attention to visual detail, verbal organization, written organization, attention, concentration, impulsivity, and generation of options for problem solving) and physical deficits (decreased balance, endurance, and coordination as well as weakness of the lower left extremity). In addition, Adam wears binaural hearing aids due to a loss of hearing as a result of the anoxic event.

During the initial clinical assessment, a speech-language pathologist on the treatment team administered both the Benton Controlled Oral Word Association Test to assess verbal organizational and fluency skills and the Championship Season subtest from the Ross Test of Higher Competency to assess written organizational skills. Adam scored in the 30th percentile on the Benton Controlled Oral Word Association Test and achieved 40% accuracy on the Championship Season subtest. In addition to full cognitive treatment for his brain injury, Interactive Metronome (IM) treatment was added to his program to address both his cognitive and physical deficits.

During the initial IM session,

Adam demonstrated each exercise for him and then asked him to replicate it. Many of the exercises had to be adapted to Adam's special needs resulting from his hearing and balance problems. He exhibited decreased attention span and lack of concentration and became easily frustrated with movements that involved his midline. His IM pretest assessment score indicated that severe motor planning, sequencing, and timing deficiencies were present.

Adam and his therapist established short term rehabilitation goals to increase the balance, endurance, and coordination of his lower left extremity and to decrease his impulsivity through the IM therapy.

Throughout treatment, the therapist noticed many improvements in Adam's attention to visual detail, his attention/concentration, and his auditory processing skills. He became more organized in his daily life and was more open to suggestions and feedback from his treatment team. Most noticeable, Adam no longer demonstrated verbal outbursts and was able to refocus himself to tasks without cues from his therapist. He also demonstrated increased activity tolerance and appeared to walk more steadily.

Midway through IM therapy, the tests were administered again. Adam made a substantial improvement on the Benton Controlled Oral Word Association Test, increasing from the 30th percentile to the 92nd percentile. He also made a significant improvement on the Championship Season

subtest increasing from 40% accuracy to 60% accuracy.

After the short-term rehabilitation IM goals had been met, his IM therapy program came to an end. Adam's posttest score showed a 75% improvement from his initial pretest score.

He completed a Post IM survey on which he indicated that he is now better able to concentrate, focus, and understand key points more clearly. He also said that he is less impulsive more patient.

**For more information visit
www.interactivemetronome.com**

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