## interactive metronome

## Now That's A Bright Ideal

Interactive Metronome® can take your life from ordinary to extraordinary.

Andrew was a 16-year-old, junior in high school when he came to IMprove to perform Interactive Metronome® (IM) training. Although he was diagnosed with learning disabilities at age three, he underwent numerous therapies, which helped him

make it this far in the public school system. On the surface, his life seemed normal, but he struggled with relationships, learning skills, and his communication abilities. He would often experience trouble with friends at school or get upset with teachers and complain to his mother about these events. When she would talk with him about what happened and suggest that it didn't seem like something to get so upset about, he would overreact and would not want to hear what she had to say.

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.

Andrew's IM Provider needed to fine-tune his training by adjusting task tempos and difficulty levels. Tasks of 100 repetitions each were conducted, first to determine his early/late tendencies, and then to determine a suitable starting tempo. Most of his hits were ahead of the beat, so the tempo was then increased and his score immediately improved. When attempting right and left hand exercises the higher tempo proved to be too fast, so these tasks were performed at the default temp of 54 beats per minute, which seemed to work fine for him.

By Andrew's 4th session, the "Pushing Slow" method was incorporated, in which training focuses on slowing down the tempo for exercises. This is accomplished by having clients perform repeated exercises, mostly with both hands and both toes, of 100 reps each. First, the client performs the task regularly, to see if they are excessively early or late with their hits. If they are early, they are encouraged to try to hit after the beat. If the client needs to generally speed up, the opposite strategy is incorporated. After doing this 3-4 times in a session, the client then performs the task and tries to get as many SRO (super-right-on) hits as possible. There is usually a marked difference in their Early/Late count. This helps clients develop control.

Instead of immediately applying the Auto Difficulty feature, the difficulty was first set at 75 for both hands at 57bmp, while keeping it at 100 for other tasks. Difficulty levels were manually gradually dropped on all tasks, from 100 to 80 to 70 and eventually to 50. Auto Difficulty was first introduced during training session 7 with the both toes task only, as he was scoring in the 20ms range with this task by this time.



Initially, the Auto Difficulty feature was too difficult for Andrew, but by his 7th session, he was able to tolerate the guide sounds and Auto Difficulty was implemented. Volume levels were dropped for both the reference tone and the guide sounds during the first session, then raised by his 5th session and eventually to default levels. Although the visuals were distracting to him at first, he was able to make use of them by the 8th session and incorporated them throughout the remainder of IM training. By the end of the training, he was achieving 174 bursts while performing 2000 repetitions of both hands.

After Andrew completed his IM training his mother noticed the small things didn't easily anger him any more. Those types of occurrences became fewer and he was rarely resentful. He developed the ability to accept criticism and advice from others and became much easier to get along with. He is able to follow conversations and understand what is being said so much better than in the past.

In addition to his emotional and personality changes, Andrew's handwriting improved and was not as bothered when he spilled a little food while eating. The papers and letters he brought home from school arrived in a decent condition rather than all crumpled up. Previously, Andrew had a very difficult time reading, but this too has improved. For the first time he actually enjoyed reading books. He even experienced changes in his running ability. He is now able to run 50 meters in less than 8 seconds and there were noticeable improvements in his tennis skills. Interactive Metronome® has really impacted Andrew's life in a big way, and both he and his parents are so thankful he completed IM training.

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