

Taking ADHD treatment down a new path

Janesville psychologist administers innovative computer-based therapy

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Finally, parents have another option for the treatment of attention deficit hyperactivity disorder. It's not a new drug or a nutritional cure. Instead, it's software for the human brain's hardware. It's called "Cogmed Working Memory Training," and it's a proven help for kids with ADD and ADHD. Janesville psychologist Roger Gronau is one of a handful of specialists licensed to administer the program.

The main goal is to improve working memory. To do that, the Cogmed program helps the brain improve the part that deals with executive function. A big part of executive function is working memory. Working memory helps people solve problems and decide what to do next; it helps us hold information that we'll need to get the next task done.

For example, if you're reading a story or a set of instructions, you need to hold on to earlier information to continue to understand what you're reading.

"If you ask a child with ADHD instructions with three parts, there's not a chance in the world that all three things will get done," Gronau said. "They can't hold the first two in memory."

But working memory is one of the brain functions that is "plastic, not fixed," Gronau explained. "You can train that part of the brain to be more active," Gronau said. A research group in Sweden developed a training program that increased working memory. Brain scans taken before and after the program showed increased activity in the area that controls executive function.

To use the program, patients are given a CD with the software on it. Working on their home computers, patients sign on five days a week for five weeks. Each time they sign on, the software logs them on to a central computer in Sweden. As the patients go through a series of tasks, the main computer assesses their skills. "They work to a specific level of difficulty," Gronau explained. "The computer automatically adjusts the level of difficulty. It's like building stronger muscles." The software, which is designed to appeal to children, is called "RoboMemo" and features a robot that rewards kids for their efforts.

Success has been proved. According to Cogmed, 80 percent of children who participated in the program improved their abilities to control impulsive behavior, concentrate and use complex reasoning to solve problems.

After the results were published in the Journal of American Academy of Child and Adolescent Psychiatry, several universities, including Stanford and Notre Dame, did their own studies.

Bradley Gibson, an associate professor of psychology, did a pilot study with 15 children who had been diagnosed with ADHD. After the training, teachers and parents reported significant improvements in the ability to pay attention, and parents reported a reduction in hyperactivity. “I think it’s exciting that families have another tool that they can use,” Gibson said in an interview from his office at Notre Dame.

Some Cogmed users might find they can reduce or eliminate the medication they’re on. “It’s not a magic wand by any stretch,” Gibson said. But many people are interested in finding non-medical interventions for ADD and ADHD. “It can easily be combined with medication—it’s another layer of help that’s not going to interact with the medication,” Gibson said.