

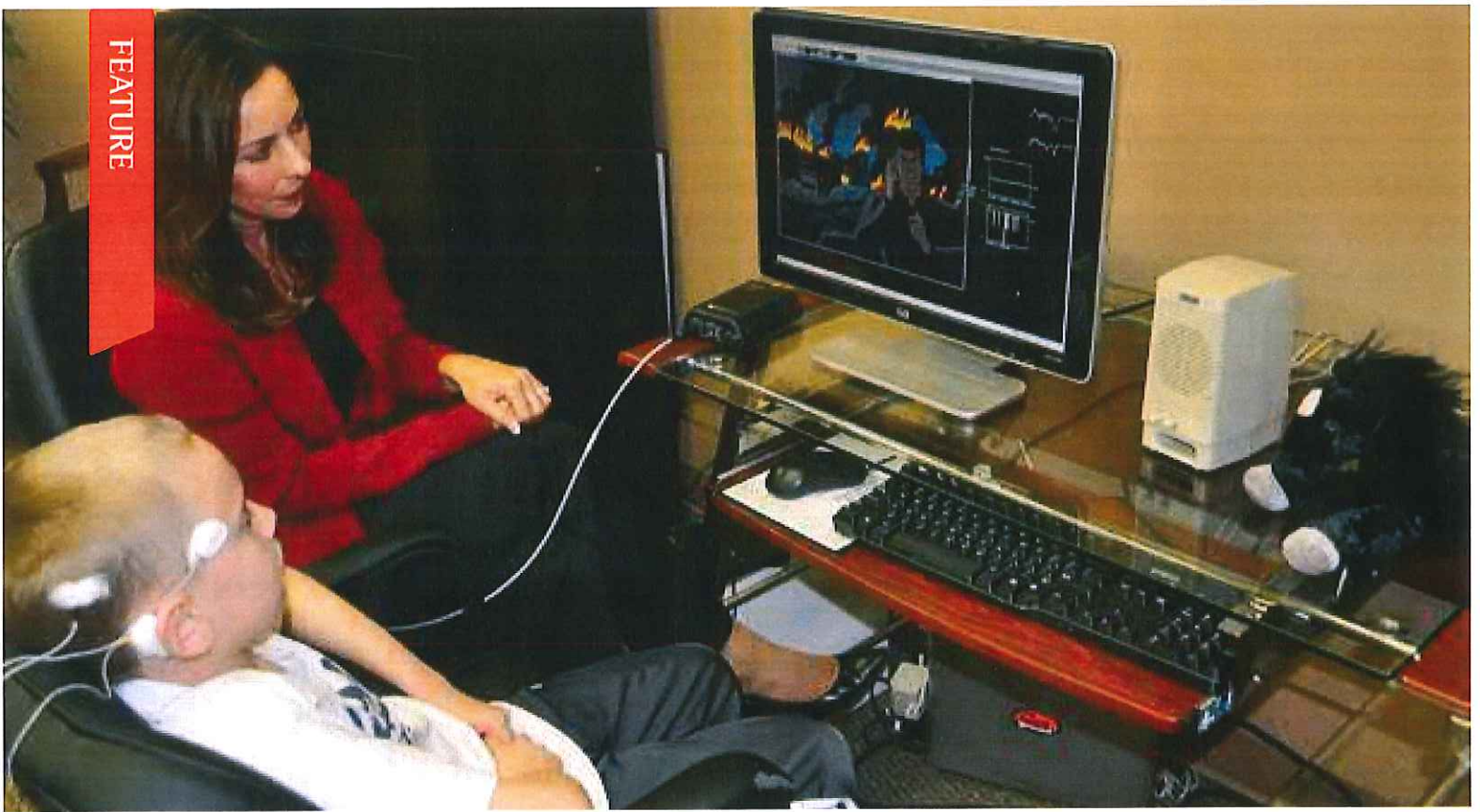
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Supports for Better Living



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The Quest for Home-Based Solutions Connectivity-Guided Neurofeedback Helps Train the Brain at Home

ANN L. RIGBY

Home may be where the heart is, and it's also now the place families are finding great success in helping their child train the brain to aid in speech/language development, social awareness, attending and much, much more.

HELPING MAX AT HOME

From martial arts lessons to basketball, swimming, riding his scooter and listening to music, 11-year-old Max Williams* is your typical fun-loving, on-the-go preteen.

But life isn't always easy for Max, who attends a suburban therapeutic school and faces a variety of learning disabilities, an auditory processing disorder, and speech/language delays due to autism.

"We first noticed he wasn't speaking like other young children by his second birthday," recalls his mom, Marie. "He struggled to make eye contact, had his own words and language, and was unable to communicate in a way others could understand."

The Williamses say their quest to find answers to the debilitating effects of autism was multi-pronged.

For years, she and her husband, Joel, who works in construction, searched for ways to help Max develop social skills and communicate. Max was enrolled in early intervention and his parents sought the assistance of speech, occupational and developmental therapists to aid their son. In kindergarten, teachers worried about Max' inability to sit still and questioned his ability to comprehend language.

"For the last five or six years, we tried the biomedical route and found some success," recalls Max's mom, who says that in addition to seeking the advice of leading medical and educational specialists, she searched the Internet and attended autism conferences to learn all she could about an autism spectrum diagnosis and potential therapies and treatments.

MAKING THE NEUROCONNECTION

"That's how I first learned about a newer type of brain training called Connectivity-Guided Neurofeedback being used to aid those with autism and other neuropsychological conditions to improve and rebuild the brain's neuroconnections," recalls Marie, who says she was curious to learn more about the promising treatment she discovered at one of the educational autism conferences.

She soon discovered, in Naperville, Illinois, a brain mapping and neurofeedback facility offering an advanced form of neurofeedback called Connectivity-Guided Neurofeedback based on brain imaging research and a home-based therapy protocol.

"Neurofeedback training can be very effective with autism spectrum disorder – particularly Connectivity-Guided Neurofeedback, which trains the way the brain communicates with itself," explains Ann L. Rigby, founder and director of The Neuroconnection, who uses Connectivity-Guided Neurofeedback to help Max and other clients form new connections in regions of the brain where they have not been formed previously due to the epigenetic nature of autism.

According to Rigby, the state-of-the-art Connectivity-Guided Neurofeedback has proven especially beneficial for those with autism and a new home-based component means the structured therapy sessions are accessible to those like Max, who don't live in close proximity to the center.

Because of the brain's lifelong neuroplasticity, the brain can change and form new connections at any age, says Rigby, who currently sees clients ranging in age from three to 77. Training takes an average of 60 sessions for individuals on the autism spectrum and the effects shown in studies over time indicate that improvements are lasting.

The sophisticated Connectivity-Guided Neurofeedback training is particularly effective for clients with autism, she says, as it trains regions of the brain where neuropathways should have formed during early development but did not for better communication and timing.

BRAIN TRAINING AT HOME

Following his recommendation of his doctor, Max and his family made the trip to Naperville for evaluation, brain mapping, individual protocol development, and to learn all they could about running training sessions before returning to Chicago.

His parents learned in clinic how to use the neurofeedback instrument, loaded with Max's protocols, to train Max at home. During each 30-minute home-based session, Max was connected by two sensors on his scalp and ears and monitored by trained clinicians at The Neuroconnection via Skype technology. Auditory and visual feedback was provided in the form of a movie of Max's choosing.

That same Skype technology also enables other clients from as far away as Russia and India to tap into the highly specialized technology available in suburban Chicago, Illinois.

"When producing the correct brain waves, the brains seeks out sights and sounds and becomes conditioned to produce correct brain wave patterns more often," explains Rigby, who says over time, the unconscious process makes changes in brain wave activity and begins producing optimal functioning, thus decreasing symptoms.

After only 10 home training sessions, Max' parents reported amazing changes. Their son began making eye contact, was calmer, had improved attention, and was beginning to participate in family conversation. An additional 10 sessions yielded more positive results.

"Even his teachers started noticing a change," says Marie, who notes her son was engaging in conversation, and constantly asking "What does that mean?" when he failed to grasp the conversation. "He's become very expressive. He's more present. Even his eyes and his face are engaged as he speaks."

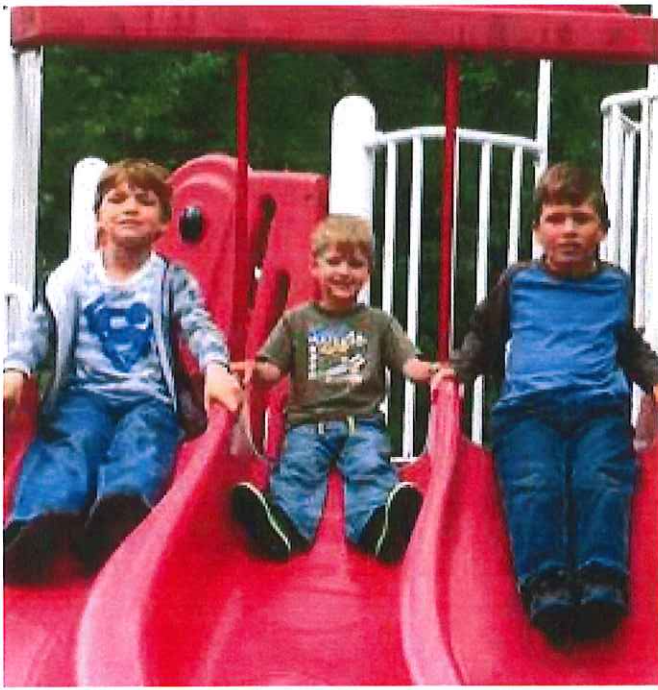
**Max Williams' name has been changed to protect his privacy. His story and experiences are very real.*

INDIANA FAMILY FINDS HOME-BASED SUCCESS

Home-based training also made sense for the Tichenor family of Fort Branch, Indiana. Their seven-year-old son, Logan, was diagnosed with autism at age three after losing his ability to communicate as a 15-month-old infant.

"Unfortunately, the closest center providing neurofeedback therapy was 110 miles away in Louisville, nearly a 90-minute trip from home," recalls his mom, Carrie. "With sessions recommended twice each week, it meant we'd be spending a lot of time on the road. They didn't offer the more advanced Connectivity-Guided Neurofeedback proven especially beneficial for those with autism.





After making the journey to Naperville for evaluation, brain mapping and hands-on training, Logan's mom also began noticing changes her son made in both speech and social engagement. "Today Logan is asking questions, using sentences, making comments and conversation. He's also participating successfully in group activities, something he wasn't able to do previously."

Periodically throughout the year, Logan and his family make their way back to Naperville for brain remapping and protocol adjustments.

WHAT THE EXPERTS SAY

According to Rigby, Connectivity-Guided Neurofeedback makes the changes in the brain that allow other therapies to be absorbed faster. The home-based component means therapy is available and accessible to families across the country and around the world.

"When you have the neuroconnections that allow you to now perform the tasks, improvements are seen more quickly," states Ribgy, who says speech therapy can

be enhanced, children are able to pay more attention and get more out of tutoring, become socially aware and engaged and often need to join a social skills group to catch up due to their new awareness and interest in peers.

Among other results are the ability to transition without disruption, increased focus, improvement in social skills and social pragmatics, increased calmness and decreased anxiety, improved verbal communication or expressive language, improved receptive language, fewer repetitive behaviors, and improved processing speed.

"The new interest in others, improvement in eye contact and empathy can be an amazing thing to watch," she says. "A child at the beginning of training, who had no interest in others, will suddenly come into the office engaging with others in the waiting room or carrying on reciprocal conversations with staff when they were not able to do this before."

APPLAUDING CONNECTIVITY-GUIDED NEUROFEEDBACK TRAINING

Success through Connectivity-Guided Neurofeedback is being applauded by a number of families.

Emmett Micklo

Erin Micklo of Glen Ellyn, Illinois, mother of 11-year-old Emmett, says the gains following a year of Connectivity-Guided Neurofeedback training for individuals on the spectrum are amazing.

"Emmett is seeking us out more, and we've noticed an increase in conversational give and take," says Micklo, who also notes that during

the course of treatment her son was able to reduce and eventually eliminate his need for anti-convulsant seizure medication. "While doctors don't concur that the training was directly responsible for Emmett's improvement, we couldn't be happier with the outcome."

Ben Paulson

Tracy Paulson, a Naperville, Illinois, mom of two, says she attributes much of the success her 15-year-old son, Ben, to Connectivity-Guided Neurofeedback.

"Ben was first diagnosed with a developmental delay and started receiving occupational, physical and speech therapy by 18 months of age," reports Paulson, who says by the time he was nine years old and in the third grade, her son's self-calming rheumatism led to a misdiagnosis of reflux. Medications were prescribed.

"In the fifth grade, we stopped the medications and began working with Ann Rigby at The Neuroconnection," she says. "After evaluation and brain mapping, we completed 40 sessions of Connectivity-Guided Neurofeedback before his sixth grade year. He transitioned seamlessly to the new school year and even his teachers noticed he was more focused, had developed a longer attention span and was not as frightful and anxious."

The Paulsons continued therapy focusing on the area of the brain known as the frontal lobe, completing 60 sessions. An additional 20 sessions focusing on the right side of the brain yielded even more improvements in focus, resulting in a less-stressful Individualized

Education Plan (IEP) meeting, less occupational therapy time and fewer structured breaks.

Following a two-and-a-half-year break in sessions, Paulson says she was surprised to learn that upon retesting, Ben's brain continued to show improvement.

"We did another 20 sessions and his transition to high school was wonderful," she states. "Ben's social skills have really improved and he's now part of a close-knit group of friends who enjoy geocaching [an outdoor recreation hobby involving the use of a GPS receiver or mobile unit to find hidden containers and treasures] during their free time. Next year he will no longer need occupational therapy, and he's transitioned from enjoying Special Olympics activities to other activities like managing the high school football team.

"Connectivity-Guided Neurofeedback has changed the entire family," reports Paulson, who says Ben's experience is a journey. "We've come a long way and aren't quite finished yet."





Zachary Stewart

Marybeth Stewart, the Naperville, Illinois, mother of nine-year old Zachary, says what she learned about Connectivity-Guided Neurofeedback made sense. The registered nurse, who always believed her son had the ability to learn and communicate but that he was somehow stuck, says "he'd space out, lose focus and, while he was verbal, Zachary was far from being able to converse at a first-grade level like his peers."

Despite years of early intervention therapies, social skills group work, medications, intensive at-home verbal prompts and a variety of techniques including the use of weighted vests, brushing protocols, and trying a gluten- and casein-free diet, Stewart says she was worried.

"He'd make small gains, but we worried about the lack of substantive progress during the critical brain and IQ development period between the ages of seven and nine," admits his mom, who says she felt the proverbial clock was ticking.

After nearly a year of Connectivity-Guided Neurofeedback training, she says her son is on the verge of a major breakthrough and already showing huge gains in expressive language and emotional stability.

"He's asking questions about topics and conversations we had when I didn't think he was even listening," notes Zachary's mom, who says the finite data and concrete results indicate her son is indeed moving in the right direction. "He's showing a greater desire to be included in conversations and participating more."

HOW IT WORKS

Based on the latest research, Connectivity-Guided Neurofeedback focuses on brain waves produced by electrical signals as the brain's neurons fire.

"It's a noninvasive, non-medication and painless intervention which enhances neuroregulation and can improve the ability of the brain to function optimally," says Ann Rigby, founder and director of The Neuroconnection.

Measured using an electroencephalogram (EEG) amplifier and computer to show when optimum functioning is present, Neurofeedback training sessions induce change by rewarding the brain with sounds and visual images from a movie or game when the correct brainwaves are produced.

The Connectivity-Guided Neurofeedback process involves the use of specific brain mapping tools that provide three-dimensional statistical computations that show how the brain is communicating with itself. The specific tool that provides a quantitative metric for EEG and measures regions of the brain for connectivity is called NeuroRep, developed by Dr. William Hudspeth.

"These tools take into account the geography and structure of the brain and an understanding of the pathways in the brain that allow information to flow back and forth," explains Rigby, who says it is only with these tools that trained clinicians accurately know where and how to do the correct type of Neurofeedback training.

"Until recent years, the maps that we used only allowed us to look at the brain as if it were flat and did not account for the distance between the sites that we were evaluating," she states. "State-of-the-art brain mapping today enables us to evaluate regions of the brain, looking at areas that are too loosely or too tightly connected, and aims to make changes to these abnormalities in functioning."

RESEARCH BASIS FOR CONNECTIVITY-GUIDED NEUROFEEDBACK

The research of Robert Coben, Ph.D., a neuropsychologist, is at the heart of Connectivity-Guided Neurofeedback. Dr. Coben reported results of a large-scale 2009 study of 85 children in an experimental group trained using Connectivity-Guided Neurofeedback, showing a 57 percent decrease in autistic symptoms.

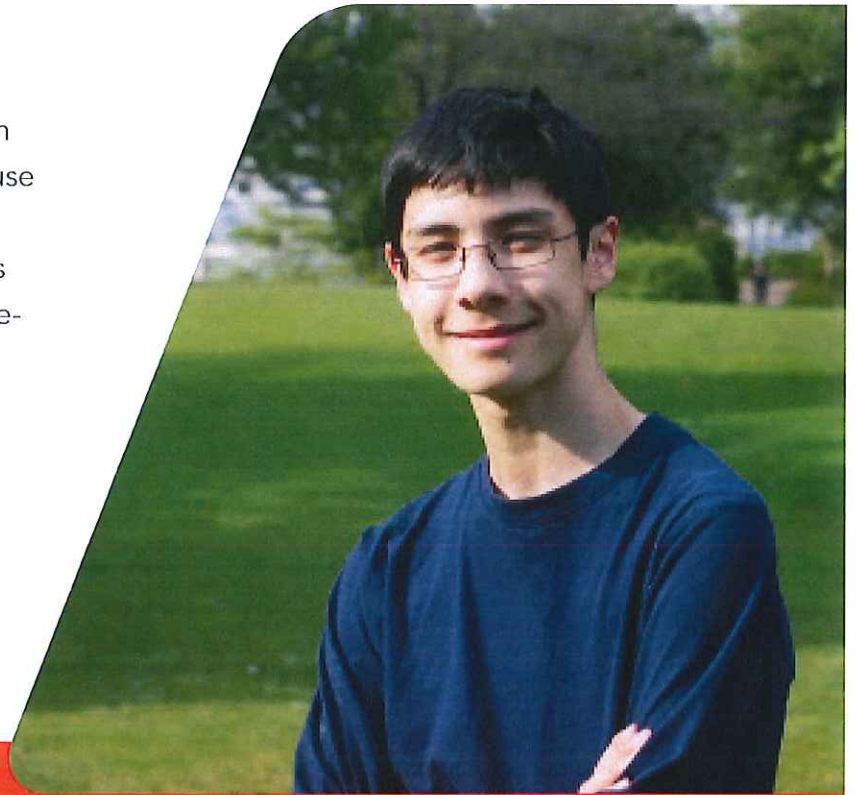
"Using Dr. Coben's model, we have achieved outcomes similar to the 2009 study that he did," says Ann Rigby of The Neuroconnection in Naperville, Illinois.

"In addition to the significant symptom reduction seen with our clients, it's not uncommon for our clients to be able to come off stimulant medication, antidepressants, and anti-anxiety meds following training. Best of all, the improvements seen with training are lasting. We have followed clients several years out after training and find that they continue to do well without recurrence of the symptoms that improved during Neurofeedback training," she states.

FOR ADDITIONAL INFORMATION

Neurofeedback has been used for more than 20 years to address the symptoms of attention deficit, anxiety, chronic fatigue, substance abuse and mood disorders. It meets the American Academy of Child and Adolescent Psychiatry's clinical guidelines for recommending evidence-based treatment.

For information on neurofeedback and Connectivity Guided Neurofeedback, call The Neuroconnection at 630-858-5105 or visit www.theneuroconnection.com.



ABOUT THE AUTHOR



Ann L. Rigby is a licensed Clinical Social Worker with over 25 years in the mental health field, working with children, adults, families, and couples. She has specialized training in the

areas of Attention Deficit Disorders, Autism, Anxiety and Mood disorders. Ms. Rigby added QEEG and Neurofeedback to her practice in 2001 and currently provides an advanced, researched form of Neurofeedback called Connectivity Guided Neurofeedback at her clinic, The Neuroconnection.

Ms. Rigby earned her MSW at Washington University in St. Louis. Prior to entering private practice in 1997, she worked in hospitals and outpatient settings and held supervisory

positions within them. Ms. Rigby is a field placement instructor for graduate students from Benedictine University.

She is board certified in EEG biofeedback (BCN) through the Biofeedback Certification Institute of America. She earned a two-year postgraduate certification in Family Therapy and is certified by the Academy of Certified Social Workers (ACSW).

Ms. Rigby is the president of the board of the Autism Society of Illinois. She is a member of the International Society for Neurofeedback and Research (ISNR), the Association of Applied Psychophysiology and Biofeedback (AAPB), The Biofeedback Certification Institute of America (BCIA), and the National Association of Social Workers (NASW).