



CASE STUDY Six-year-old boy with Asperger's Syndrome and hyperactivity

These case studies, each submitted by a Certified HANDLE® Practitioner, demonstrate outcomes achieved through implementation of an individualized HANDLE program. The acronym stands for the Holistic Approach to NeuroDevelopment and Learning Efficiency. The HANDLE paradigm for understanding behaviors and their root causes is thoroughly explained in *The Fabric of Autism: Weaving the Threads into a Cogent Theory*, by Judith Bluestone, the creator of HANDLE and the founder of The HANDLE Institute. For intimate insights into client and family experiences of HANDLE, see *The Churkendoose Anthology*, with commentary by Judith Bluestone.

For each of the clients in these Case Studies, the practitioner began with a comprehensive assessment, the findings of which led to a Neurodevelopmental Profile, which in turn formed the basis for a program of activities complex in their neuroscientific premises and very simple to implement. Thereafter the client's program was modified about monthly in accord with changes achieved in the interim. Each client participates in twelve to fifteen activities regularly; the practitioner, in writing up the case study, names those activities in brief without the full details and explicit information each client-family receives in why and how to implement the program. Go to www.handle.org for more information.

Referral Concerns

The client was described as an explosive child, volatile and unpredictable. The client experienced intense torrents of emotion that would surface suddenly. In these moments, he would tense his body, thrash about and throw himself to the ground, saying things contrary to fact. He would sometimes engage in head banging or other forms of self-injury, such as pinching, pulling at his neck, bending his fingers backward or poking himself in the eyes. He had also begun spitting. The client exhibited little in the way of eye contact.

The client's parents indicated that other professionals had identified auditory perception/processing dysfunction, attentional disorder, conduct disorder, general learning disability, developmental delay, and hyperactivity in their son.

The client's excessive activity, coupled with his behavioral challenges, had earned him the label of ADHD. He had been taking Ritalin and Prozac. No one as yet, however, had identified the condition that most appropriately encompassed the client's behaviors, Asperger's Syndrome.

Background Information

The client's mother was sick for the first two trimesters of her pregnancy with him. The client was a full-term baby, but his was a "dry birth" following 18 hours of labor. No complications were noted and he appeared to have a good sucking reflex. When the client was six weeks old, his mother switched from breastfeeding to bottle-feeding. Many brands of formula were tried because most seemed to cause the client to throw up excessively.

The client began walking, or rather running, at nine or ten months old. His speech was delayed. He sat up within the appropriate age range, however his crawling was minimal and he did not crawl in the standard cross pattern fashion that works both sides of the body and brain hemispheres in a balanced way.

The client's gross and fine motor coordination were both undeveloped. He was not proficient with tasks such as getting dressed or using utensils, and he was unable to alternate feet while climbing or descending stairs. The client was distressed by hair washing, hair brushing and dressing.

Railings had been put up around the client's bed to keep him from falling out. He could not fall asleep unless someone else was in bed with him. Once asleep his mother reported that he frequently "thrashed about." The client could spin for long periods of time without getting dizzy. His food choices consisted primarily of milk and peanut butter and he refused all fruits and vegetables. The client would not eat in front of others. Consequently, he would not eat at school.

Observations

The first observation, made before the client entered the evaluation room, was that there was an asymmetry about the client's head. It was as if one side had been pushed forward and one side backward. This was not something that his parents had recognized, nor had other professionals brought it to their attention.

At the time of the client's evaluation, he had been off of all medication for a month. While waiting in the lobby, the client had discovered a book about King Kong, and had been completely ensnared by it. Despite being allowed to bring it with him, the client had to be coaxed into the evaluation room and physically guided to avoid bumping into things along the way. He required prompting from his parents to speak to the practitioner, and it was noted that speaking seemed difficult for him.

The client's father commented that dinosaurs were a fascination for the client, indeed a fixation. The client's inclination to fixate became evident during the evaluation as he was observed scrutinizing the King Kong book, turning the pages one by one, analyzing the picture, then acting out the positions and expressions of the characters. The client's father explained that the client was also known to fixate on words or phrases, repeating them many times over.

As the assessment began, it quickly became apparent that the client would not be able to perform many of the standard evaluation tasks most six year olds were capable of. The first, tracing around a diagram of animal shapes to untangle them from others, he began but stopped, as the jumble of lines promptly confused him. Blue paper was substituted and he tried twice more to trace the animals, with only slightly more success the third time.

As he worked through this task, the client drew with his right hand, but appeared to neglect the left side of his body entirely. His pencil grasp was a fist and he had mixed success with writing his name throughout the evaluation. At one point, the client was asked to match two simple drawings, identical except for the directional aspect. After an initial success, he had difficulties with the second and third drawings and began guessing, appearing to be genuinely uncertain. As he pointed to the figures he used his left hand, and his right hand remained totally inactive.

The auditory assessments validated the auditory processing and perceptual problems reported by the client's parents. He was unable to repeat a sequence of more than four nonsense syllables. Nor could he repeat a sentence or answer some basic questions about the sentence he had just heard. A careful look at visual functioning suggested problems here as well. The client was able to peer through a tube with one eye, but he could not point to an object with both eyes open. He was also fully unable to track an object with his eyes.

Conclusions

Asperger's Syndrome is a form of Pervasive Developmental Disorder, which can include poor social understanding, all-absorbing narrow interests, uncoordinated motor movements, speech and language idiosyncrasies and difficulties with non-verbal communication. Although this is a befitting descriptor of the client's condition, the label provides little to shed light on the underlying weak systems giving rise to the behaviors in question.

Instead, it became clear that a primary contributor to the client's difficulties was a vestibular system that was not functioning optimally. The inner ear, of which the vestibular system is an integral part, supports all these functions: our ability to filter and process sound, our sense of balance, the dynamic use of our eyes to track, the sense of our bodies in space, and it also regulates muscle tone (the state of readiness in our resting muscles). The client's auditory challenges, ability to spin without dizziness, balance problems, and inability to track visually were all indicators of vestibular dysfunction.

When weakened through damage or disease, the vestibular system can send unreliable signals

to the brain, eliciting inappropriate behavioral responses and spurring the development of learning problems, both of which were present in the client. Through its effect on the reticular activating system, the vestibular system also affects both general focusing of attention and activity level. The client's difficulty in shifting focus was notable, as the evaluator had to work diligently to attract the client's attention to the assessment tasks. His zeal for spinning and tendency toward hyperactivity were the client's strategies for activating his weak vestibular system, thus keeping himself alert.

The sense of proprioception, emanating from the muscles, ligaments, joints and receptors associated with the bones, and integrally related to vestibular functions, gives us our unconscious awareness of the body in space. The client liked to jump, as his jumping placed impact on his joints that helped him to feel his body. The fact that the client was prone to falling out of bed, needed someone with him to fall asleep and engaged in head banging indicated that the client's proprioception was underdeveloped.

Cross pattern movements, such as crawling, aid in developing the neural pathways between the two hemispheres of the brain. When this connection is inadequate, there is difficulty in getting the two sides of the body to coordinate. The client's interhemispheric integration was underdeveloped, as evidenced by the fact that he had, at six years old, trouble alternating feet when maneuvering stairs and he had not yet selected a dominant hand.

It appeared that as the client used his right hand, he accessed the left side of his brain exclusively, and conversely with his left hand and right hemisphere. These weak interhemispheric connections can also be implicated in some of the client's emotional instability, his language deficits and his general learning difficulty. It is necessary to use both sides of the brain to balance logic with emotion, as well as achieve optimal proficiency in language and learning. The client's performance in the visual component of his assessment also signifies a lack of binocular vision (another area compromised by irregular interhemispheric integration), helping to explain why eye contact was absent in the client.

The client's parents reported that he had many tactile sensitivities with respect to clothing and grooming. Also, the possibility of undiagnosed food allergies seemed a strong likelihood, given his very definite food preferences and avoidances. Most suspect are milk and peanuts, the two foods that he craved.

Recommendations

With all of these factors in play—weak connections between the two sides of the brain, vestibular disturbances, compromised proprioception, visual and auditory deficiencies and tactile and food sensitivities—it is not difficult to see why the client often exploded in frustration. To strengthen the weak and irregular systems, thus opening new opportunities for living and learning, a comprehensive therapy program was designed and presented to the client and his parents for implementation at home. Nutritional suggestions—easily absorbed vitamin drops and flaxseed oil—were made to support the strengthening and building of neural pathways and general health as the client moves and progresses through his HANDLE program.

Follow-Up

The client's family and teachers began noticing subtle changes in the client very early into his HANDLE program. In the first week, his teachers commented that he was relating better with the other children. At Aikido class, he was able to perform jumping jacks along with the other students.

After following his program diligently for one month, the client began to blossom socially. His bus driver noticed his great smile and "bubbly happiness." Delight, openness and sociability began pervading his general mood, and his verbal repetition had lessened considerably.

When he and his parents checked in for their first follow-up appointment, the client ran in with a huge grin and reported that he likes pizza. He was trying new foods, had been taking his supplements, and had begun eating at school on a daily basis. He had learned to fall asleep without someone else in his bed.

At a school conference, about two months into their program, the client received an excellent

report from his teacher. His tantrums had diminished greatly. The client was calm in class, focusing and paying attention, and was spending less time obsessing. He appeared to be choosing a dominant hand. Furthermore, the client was initiating dialogue with the other children. His social awareness was growing as he demonstrated reciprocity in conversation and facility in selecting appropriate social responses.

By this time, the client was completely weaned from peanut butter and milk and enjoying a wide variety of foods. He saw his first movie in a movie theater and discovered that he likes popcorn!

Five months after his assessment, it was clear that the client would be well equipped to participate in a regular kindergarten classroom the following September.

The HANDLE Institute presents these case studies to demonstrate the successes of the HANDLE approach and pique the interest of researchers and funders in engaging in clinical studies to further examine the efficacy of these interventions. For more information about The HANDLE Institute, go to www.handle.org or email us at support@handle.org. You can download case studies from the website or email us to obtain pdf files.



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