"Gymnastics for Children with Special Needs— We Are Needed and We Can Change Lives"

USA Gymnastics encourages acceptance of children with disabilities into gymnastics programs. There are certainly valuable benefits, such as those Mr. Hurwin describes in the following article. However, in order to provide appropriate care, personnel who work with such children often require special training, and many special needs children can require one-on-one instruction. Each autistic child responds to sensory stimuli in somewhat unique ways. While David discovered a calming effect in the trampoline, the experience of other autistic children may vary considerably. Working with special needs children, particularly autistic children, requires a fair amount of experimentation to find movement experiences that best meet their individual needs, and that they can engage in safely.

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David is 6 years old and loves to come to gym. He revels in the freedom he finds to play, jump, roll, climb and swing. He especially loves to bounce on the trampoline, and returns to it as often as he can during his private sessions. He becomes completely absorbed in the thrill of moving his body, and thoroughly enjoys the sensory stimulus it generates. Seeking this stimulation, he often stays on trampoline for over 30 minutes straight without tiring, repeating a task many times that is particularly exciting.

David's ability to motor plan and move his body is excellent for his age. He clearly demonstrates this in his parallel bars routine. Mounting with a jump up to a front support, he crosses quickly and efficiently to the opposite end and back, working a series of skills in-between. He is driven by a desire to reach his favorite part, the dismount. After completing his routine, he perches on top of a training box next to the bars. While waiting for his coach's permission to continue practice, he tips the end of the box to fall forward. Like sitting on the edge of a falling drawbridge, he holds his breath while falling, then flops off and rolls expertly to his feet. He turns, laughing, and runs back to repeat the routine sequence.

David's mother smiles, recognizing the very long distance he's traveled since he began gymnastics four months ago. He could not do a forward roll, hold a front support, or bounce 3 times in a row on the trampoline. His motor planning was poor. He was unable to focus and, therefore, unable to complete a single, entire task. Similar disorganization occurred in school and at home. David's frustration was overwhelming him. Unable to express his feelings, he resorted to screaming and crying fits. His parents had sought counseling, tried behavioral intervention, drug therapies, and more; but nothing helped David effectively succeed. Finally, they heard a presentation about the utility of gymnastics as a gymnastics/movement experience with children with David's special needs.

David's parents brought him to the Los Angeles School of Gymnastics and, in my role as a coach and occupational therapist, I began to work with him. At three years old, David had been diagnosed as Severely Autistic. Even at this time, he does not speak; he grunts and makes sounds that are more animal-like than human. When we work together he does not look at me, but around or through me. He does not ride a bicycle

or play with toys because they have no meaning to him. He cannot interpret their intended use. He is playful, but doesn't have friends to play with.

He is in constant motion, frequently shaking his hands or tapping his chest. He understands much of what I say to him, but is selective in what or how he responds. He has the motor ability to perform various skills or challenges, but shows no initiation or motivation to do so. David's first time on the trampoline, he immediately dropped to his hands and knees and scrambled. I brought him back to the trampoline several times during the session, but he continued his escape routine.

He also could not tolerate swinging on the rings. On each attempt he yelled and let go, demonstrating no regard for his own safety. When tossed a beach ball, he stood motionless and allowed it to hit his head. During each session, I had to constantly maintain physical contact in order to prevent him from dashing about the gym; again, with no regard for safety - his own or other children.

Disorganization and impulsivity characterized the pattern of David's first few sessions. I recognized a need to create a means of communication by which I might reach him. This would be the first step toward creating a program that would help to organize his behavior. A real breakthrough occurred when, early one session, he broke free from me and bolted through the gym. He made a beeline to the trampoline and began to bounce. With no fear this time, he seemed to seek the type of stimulation it provided. Twenty minutes later, when he finally came off, he was sweating...and calm.

Unwittingly, David began to use the trampoline as a tool for organizing himself. This also signaled the beginning of a relationship between us, a remarkable step for an autistic child. The trampoline represented a step along the path toward David's knowing that his body belongs to him, and the realization that he could use his body to accomplish goal-directed tasks. The trampoline became an important therapy tool. I used it as his sensorial "ground-zero." I could then coax him to other new and exciting sensory input throughout the gym. This in turn allowed the development of his gross motor planning. It opened the door and let little cracks of light into his world.

The successes David experienced in the next four months certainly did not travel a linear, upward trajectory; but resembled more closely a roller coaster ride, with ups and downs and hairpin turns. When viewed from a temporal distance, however, there has been definite progress. David can now complete a 7-step obstacle course, including forward and backward rolls. He can perform cartwheels. He swings on rings and easily vaults on and off the horse. He has also demonstrated improvement in his school environment. He is more organized than his teachers ever expected him to become.

David now sleeps through the night and his family is able to communicate with him. His mother says he wakes up most days and walks into her room with his gym uniform in hand, smiling expectantly. He loves gymnastics because it is FUN.

Even special children learn from play

Children seek fun because the primary job of every child is to play. Play creates an environmental context in which children acquire their sense of culture, acceptable behaviors, social norms, and language. Play is the first active sensory-integrative means humans use to organize the impulses of the body, including sensory information such as gravity, sight, and sound. Sensory integration is defined as "the organization of sensation for use" (Ayres, 1979).

The senses provide constant information about our bodies and our environment. Every second, whether awake or not, the brain receives thousands of bits of sensory input from all parts of the body. For example, one sensory mechanism is specially designed to detect the pull of gravity and the movements of the body in relation to the earth. Since gravity is relentless, this is always in operation.

Sensations begin in the womb as the fetal brain senses the movements of the mother's body. These sensations

are "food for the brain." This continues in infancy. As the brain organizes and processes sensory information, sensations are digested and the brain, in essence, is nourished. That is one reason why children love to be picked up, rocked, and hugged. It is also why they love to run, jump, and play at playgrounds or at the beach. Sensations are a source of nourishment for the nervous system.

Children perceive their environment through sensations as they move, look, touch and hear their world. They move because the sensations of movement nourish their brains (Ayres, 1979). Through play, the brain locates, sorts, and orders sensations; somewhat like a traffic policeman directs moving cars. This coordination of a massive flow of sensory information enables the body to move effectively. It also allows accurate perception and adaptation to the environment. For special needs children, particularly those with autism, the brain does not organize and process incoming sensory information effectively. The flow of sensory information is not organized. Sensations are not digested. Like an intersection without a policemen, traffic becomes hopelessly snarled.

The Gymnastics Connection

Gymnastics provides a rich sensory diet. For an individual like David, it seems to have opened a window between him and the outside world, and affords him tools to move more efficiently within. As David has spent more time in the gym, he has increased his endurance and overall strength. Improvements in his motor planning and coordination, via developmentally appropriate movement, have aided in the learning of new motor skills. Experience with a variety of obstacle courses appropriate for his size and skill have improved his ability to sequence and have helped him organize his attention during individual tasks. Use of the trampoline, swinging ropes, and tumbling mats have increased his sensory processing abilities.

As a result of stimulation to the vestibular system, David has begun to register visual input and make it more meaningful. Improved sensory processing has motivated him to initiate new and different tasks that are purposeful or constructive. This may prove to be one of the greatest benefits of David's experience in gymnastics.

Realistic Expectations

David's goal in gymnastics has not been to learn skills such as reading or writing. Rather, he is learning how to learn. Most learning occurs first through the integration of the sensory systems. Lacking sensory interaction with the physical environment, traditional learning is quite difficult. As a result of the variety of sensory input David has encountered during his gymnastics sessions, he can now sustain attention for greater periods of time, he can focus attention longer on a task, and he can attempt to problem-solve. This has led to better organizational behavior. He comes into the gym smiling and calm. He enters the work area focused and ready.

As another by-product of his time in the gym, David has significantly improved his sense of self-esteem and competence. This allows him to keep his "window" open. He is a player. Other gymnasts and coaches frequently go out of their way to say "hi" to him, and he now responds to each person in his own fashion. This has led to increased interaction with his peers and is expanding his social group.

In conclusion, gymnastics is a valuable organic source of physical activity that appears to nourish the brain with sensory input. Gymnastics seems to also contribute to sensory integration. Through gymnastics, all children get to experience the benefit of moving their bodies; climbing, reaching, grasping, even falling. As described in this article, the gymnastics environment can be used to construct a therapeutic playground, assisting some special needs children to become motivated and organized.

David is the same child he was before gymnastics. He was always there, looking for a door to get out. Gymnastics seems to have unlocked the door. He now chooses to open it, often. His effort is worthy of all I do to investigate further means of keeping that door open.

Ayres, A.J. (1979). *Sensory integration and the child*. Los Angeles: Western Psychological Services.

Every major city in the USA has a branch of the Autistic Society of America and has a website for local information and service links. Please feel free to contact Gene Hurwin at OT1KenOB@aol.com for program development information on the training needed by gymnastics clubs and coaches to work with autistic children and other special needs kids.