

## Early Positive Results with Autism

Jo Anne Tierney, OTR/L, MNRI® Core Specialist, Mendota Heights, MN, USA



**M**ax is a young boy with autism. At the time this article was written, he was 4½ years old. Here I will describe some very nice changes seen in the areas of sensory integration, anxiety, behavior, and functional skills within just 5 months of adding the Masgutova Method of Neurosensorimotor Reflex Integration® (MNRI®) to his regular therapy program.

### *History of Therapeutic Intervention*

At the time described in this article, Max attended an Early Childhood Special Education program where he received limited speech and occupational therapy services. He had received outpatient occupational therapy 2-3 times per week for two years, utilizing traditional therapy modalities (repetitive practice of functional skills, the Wilbarger brushing protocol, the Listening Program). During that time, some of the OT sessions involved co-treatments with a speech therapist, as it was felt that he was unable to tolerate two separate treatment sessions. He was also receiving physical therapy services once per week. At the recommendation of his physical therapist, he began therapy with an occupational therapist trained in MNRI®. At that time, 5 months ago, he began receiving MNRI® therapy once per week, with traditional therapy continuing twice per week. Approximately 3 months later, his schedule was changed to allow for MNRI® therapy twice per week, with traditional therapy once per week.

### *Presenting Problems*

Max was referred for MNRI® therapy by his physical therapist. By her description, he was making nice progress, but she recognized that his underlying neurophysiology was not well-developed, and felt that the lack of appropriate reflex integration might be limiting his pace and level of development. She noted that motor planning and coordination were issues, as well as core strength (he was unable to play in prone or lift his head while swinging prone in a hammock swing). Significant sensory issues were noted (refusing to take off his socks at home or at therapy and meltdowns when asked to wear a helmet for bike riding). He frequently 'scripted' (rote recitation without actual interactive communication) and used his peripheral vision rather than giving good eye contact.

My initial Assessment 5 months ago indicated significant delays in his reflex development. He exhibited significant anxiety, with strong resistance to being touched. The initial reflex Assessment indicated hyperactivity of his Core Tendon Guard, Fear Paralysis, Foot Tendon Guard, and Babinski Reflexes, and very significant



Jo Anne Tierney

hypo-activity of upper limb reflexes. His Robinson Hands Grasp Reflex was very hypo-active with minimal active grasping; when he did grasp, it was a loose hanging grasp using the ends of his fingers, and minimal or no use of his thumbs. He was unable to focus in order to imitate grasp or finger patterns. His Hands Supporting Reflex was hypo-active and asymmetrical, with an incorrect pattern of abduction. Hands Pulling was also very hypo-active, with no engagement of his arms, and a strong head lag. Visual tracking was poor, with compensation by head righting (he needed to turn his head in order to follow the stimulus). With his head stabilized, he demonstrated a very narrow range for visual tracking.

**MNRI® Assessment by Dr. Masgutova**

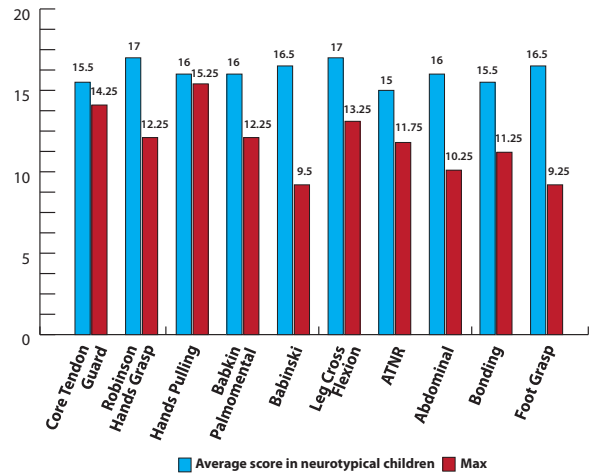
On March 12, 2013, 4½ months after starting MNRI® therapy, Max underwent a complete reflex Assessment by Dr. Svetlana Masgutova. The results of this Assessment were compared to the reflex integration profile of neurotypical children, in order to create a more individualized Home Program for Max. The results of this Assessment are as follows, at right.

This comparative analysis demonstrates that Max’s reflex pattern development is significantly below the norm when compared with neurotypical children. A number of Max’s reflexes demonstrate an incorrect pattern of response, and are at the level of light dysfunction – these include Babinski, Foot Grasp, Hands Supporting, Segmental Rolling, Landau, Flying and Landing, STNR, Foot Tendon Guard, and Locomotion. Reflexes that demonstrate elements of a correct pattern and are at the boundary between dysfunction and normal function include Moro and Fear Paralysis Reflexes, and Abdominal Sleep Posture. The remaining assessed reflexes including Robinson Hands Grasp, Babkin, ATNR, Bonding, Bauer Crawling, Grounding, Head Righting, Spinal Galant, Spinal Perez, Tonic Labyrinthine, Spinning, Balancing, Pavlov, Core Tendon Guard, Leg Cross Flexion-Extension, Automatic Gait, and Trunk Extension are in the functional range, but at a low or very low level of development.

One reflex pattern – Hands Pulling – was within the norm when assessed by Dr. Masgutova. This represents a very strong and significant improvement since Max’s initial Assessment with me 4.5 months earlier, described above. When one looks at the developmental purpose of this reflex, one can begin to understand how its development and integration into a child’s motor system can impact so many aspects of that child’s functioning. This reflex supports the development of muscle tone regulation in the arms and the development of precise movements of arms, hands, and fingers while reaching for objects. In this way, it supports the development of gross motor, fine motor, and cognitive skills. This reflex participates in the development of visual convergence-to-divergence, and has to do with engagement, curiosity, and pulling oneself into the world. The development toward integration of this and other reflexes is felt to be a significant factor in the many developmental gains that Max is experiencing.

Table 1. Reflex Pattern Evaluation Results: Reflex profile of Max in comparison with neurotypical children\*

Reflex Pattern										
#	1	2	3	4	5	6	7	8	9	10
<b>Reflex Group-1</b>	Core Tendon Guard	Hands Grasp	Hands Pulling	Babkin Palmo-mental	Babinski	Leg Cross Flexion Extension	ATNR	Abdominal Sleep Posture	Bonding	Foot Grasp
Neurotypical	15.5	17	16	16	16.5	17	15	16	15.5	16.5
Max (March 2013)	14.25	12.25	15.25	12.25	9.25	13.25	11.75	10.25	11.25	9.25
<b>Reflex Group-1</b>	Automatic Gait	Bauer Crawling	Moro	Fear Paralysis	Hands Support	Segmental Rolling	Landau	Flying and Landing	Grounding	Head Righting
Neurotypical	17.5	15.5	15.5	14.5	15.5	15	15	14.5	16	16
Max (March 2013)	13	11.75	10.25	10	9.25	9.25	8.75	9.25	12.25	12.75
<b>Reflex Group-1</b>	Trunk Extension	STNR	Spinal Galant	Spinal Perez	Tonic Labyrinthine	Foot Tend	Spinning	Locomotion	Balancing	Pavlov Orientation
Neurotypical	16	16	15	16	16	15.5	15	14.5	15.5	18.5
Max (March 2013)	13.75	9.75	12.25	11.75	12.25	8.75	11.25	7.75	12.25	11.13



Graph 1 (above). Reflex patterns on the saggital plane of motor coordination; Max in comparison with neurotypical children

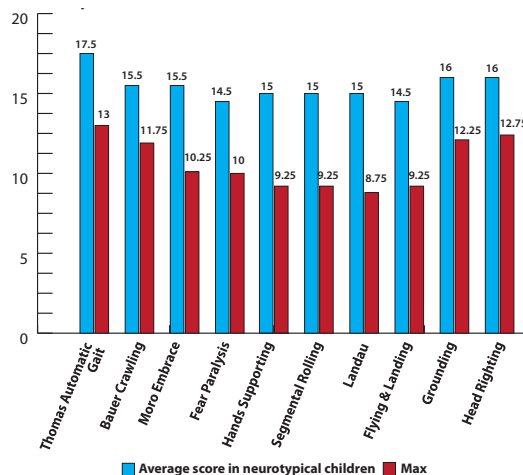
*Therapeutic Intervention Using the Masgutova Method® of Reflex Integration*

At the start of MNRI® therapy 5 months ago (at which time, he was receiving traditional therapy twice per week, and MNRI® therapy just once per week), Max demonstrated very strong hyper-sensitivity to touch, as well as aversion to the therapy. Therefore, therapy began very playfully, with two of his favorite activities – riding a tricycle down the hallway, and riding on the ‘horsey swing.’ Calming tactile input from the MNRI® Tactile Integration protocol was introduced occasionally and briefly, at a level that he would accept, during his preferred play activities. When he arrived at the end of the hallway on the tricycle, a few Embrace Squeezes were applied before sending him off again. When he fell off the swing into a pile of pillows, Embrace Squeeze and other tactile inputs were again given, providing deep, calming pressure. Soon he was also accepting brief repatterning of the Hands Supporting Reflex because it was playful and because he knew that we would count to 10 and he would be done. Then it was back to playing.

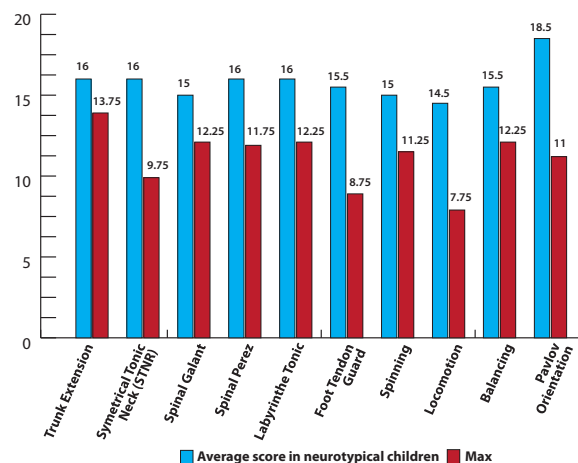
Because Max was used to doing fine motor activities during his traditional therapy sessions, pegboard and bead-stacking activities were offered. While engaged in these activities, Babinski Reflex repatterning was provided, with the hope that his feet would become less hyper-reactive to touch and allow him to tolerate being barefoot. Other tactile activities were also introduced, including segment stroking and traction. On day 2 of this new (to him) therapy approach, he accepted 10 repetitions of Hands Supporting (in one of the 3 positions), 1 repetition of Babkin-Palmamental on each hand, brief repatterning of the Fear Paralysis Reflex, and a total of 2 repetitions of Embrace Squeeze on each limb, either when distracted or between activities, briefly.

Initially, Max’s therapy took place throughout the clinic – in the gym or the hallway – as he was averse to entering the small room where the therapy table was located. However, by day 2, he chose to ride the trike into the small room, where he enjoyed playing briefly with a balloon. On the 4th day of therapy, he announced to his mother that he did not want to go into the small room. However, he chose the room twice that day – once when riding the tricycle, and later when given a choice of the gym or the small room! On that day, he accepted some therapy on the table, mostly in sitting, but also in a supine position for Hands Supporting. On day 5 of therapy, we spent the first 20 minutes of the session in the small room on the therapy table. He fussed a bit, but accepted it fairly well. On the 7th day of therapy he accepted ½ hour on the therapy table, and on the 8th day he was on the therapy table for 50 minutes, until the therapist suggested going to the gym! Throughout this time, he became more and more comfortable with the therapy. Strong initial whining and fussing gradually decreased, as did his level of anxiety.

Two months following the start of MNRI® therapy (still at one time per week at this point), Max was demonstrating significantly decreased anxiety; he was becoming very playful, and started giving hugs. He was accepting therapy quite well, and was becoming very calm during Tactile Reflex Integration and Core Tendon Guard repatterning exercises. He even began to allow the therapist to work briefly on his head and face in



Graph 2 (above). Reflex patterns on the horizontal plane of motor coordination; Max in comparison with neurotypical children  
Graph 3 (below). Reflex patterns on the dorsal plane of motor coordination; Max in comparison with neurotypical children



order to address tactile, auditory, and visual hyper-sensitivity. At this point, he also allowed removal of his socks, although he was very anxious about this, and it was for a very brief period of time. Two weeks later, he allowed his socks to be off for 10 minutes; one week after that, they were off for the entire hour, plus the hour that he spent with the PT. He now automatically takes off both shoes and socks upon request at the start of the therapy session.

***Progress Noted within the First 5 Months of Starting MNRI®***

Although some of the items listed are changes noted during his therapy sessions, most of the following changes are reported by his mother.

*Sensory Integration:*

Max demonstrates decreased anxiety and a significantly greater acceptance of MNRI® therapy. Tactile processing has improved: he now allows socks off at therapy, and allows touch to his face, including around his ears and eyes, which was initially extremely hyper-sensitive and aversive to him. He has improved tolerance for wearing hats, acceptance of new foods, and now allows his toenails to be clipped (it used to be a struggle, with 2 people needed to get the job done). He had his first haircut at which there were no problems whatsoever, including using the clipper around his ears (this was previously an ordeal for him). At his first chiropractic visit recently, Max readily climbed onto the table and had no problem accepting treatment.

*Body Awareness and Motor Control:*

Max demonstrates improved overall awareness of his body and position in space, and improved head control when pulled to sit from supine (he previously had a strong head lag, and no engagement of his arms for pulling himself up). When transitioning from sitting to lying down, he previously rotated onto his hands, then lowered himself down; he is now able to transition from sitting to supine simply by leaning back and lying down. He is now moving his body with less rigidity and with more natural fluidity of motion, and has improved coordination for swimming, with use of his arms and legs at the same time. Max is also beginning to blow bubbles in the water, has improved ability to catch a ball and to be engaged in a game of catch, and an improved enjoyment of coloring and other fine motor activities. Max now uses his pointer finger to play with the iPad (previously he could not figure out how to use the iPad).

*Self-Care Independence:*

Max has spontaneously fed himself with a spoon for the first time (his parents had given up on this, but always had feeding utensils available, just in case), has begun dressing himself independently, and employs improved problem-solving when dressing (the first day he did this, his mother told him that he might be cold with the short-sleeve shirt he had chosen; he then went back to his room and put a long-sleeve shirt on under his short-sleeve shirt). He is beginning to wash himself during baths.

*Social/Emotional and Communication:*

Max now holds hands with his mother, comes forward for hugs and is beginning to reach with his arms for a hug (previously, he turned and backed up for hugs). He is showing greater interest in his peers. He is beginning to ask questions several times per day, and for the first time, he spontaneously asked a 'wh' question: "Where's Daddy?" He is beginning to sing songs all the way through and is following directions on a Dora game.

Max's mother decided to restructure Max's therapy schedule, in order to receive MNRI® therapy three times per week. Therapy continues to incorporate work with functional and age appropriate skills. However, it is felt that these skills will develop more easily and quickly as he develops a stronger neuro-physiological basis to support them. The reflexes are the foundational pieces for future growth and development. As these reflexes are addressed and appropriate nerve pathways develop and become myelinated, his responses will continue to move in the direction of positive protection and growth. The feeling of safety and inner peace that comes with this will allow for the drawing out of developmental resources, and will provide the neuro-physiological



Max in 2014.

## REFLEXES

basis for further motor, emotional, and cognitive development, in order to reach his full potential.

Although we as MNRI® specialists see the value of this therapy for our clients, it is especially gratifying when a parent offers their observation and belief that these amazing, functional changes can be attributed to this work. It is deep and profound work, and while we know that we are making neurological changes, it is the day-to-day, functional gains that are important to our clients and to those who love them.



*I would like to thank Max and his amazing family for allowing me to be a part of their lives and their journey. It never ceases to amaze me that so many areas of life can be impacted simply by addressing reflex development and integration. Max, you are such a joy – I wish you the brightest of futures! Love you Max! – Jo Anne Tierney*