

## *I Have a Mattress in My Room for You*

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**I**n this article I will share a story of my work with a child with cerebral palsy using the MNRI® program.

The parents with their 2 year old daughter, Zuzia, visited me in March, 2012. Zuzia was adorable, with beautiful big eyes and a diagnosis of damage of the central nervous system (CNS) in the form of moderate cerebral palsy (CP) with overall delay. She was not able to walk, speak, or communicate her physiological needs (eating and toilet functions). Her mouth was constantly open and she drooled intensely. During the two years of her life



Zuzia today as a 4-year-old.

they had been involved in rehabilitation using the therapy programs of Vojta, Bobath, SI, speech therapy, psychological-educational therapy, and other developmental programs. At her earlier visits to doctors and their neurologist, Zuzia's mother was told that her daughter's development was normal, and that her pace was slowed down to some extent but that she shouldn't worry. She was hesitant about this information as Zuzia was their second child, and her daughter's development was very different in comparison with her elder son. Zuzia developed her ability to sit up with some delay at 10 months, for example, while her brother did this at 6 months. Mom observed delays in other areas: eating, manipulating objects, focusing, and other milestones. So she made a decision to start intervention using the Bobath method and then, a month later, the Vojta therapy.

During the first visit Zuzia's mother asked me what progress and time frame using the MNRI® with her daughter they can expect to see. I shared my long-term experience working with children with similar symptoms and the effects of MNRI® techniques. I wanted to prepare them for possibly years of work with Zuzia because CP is serious damage to the brain. As a therapist working at MNRI® clinics and camps in Poland and abroad, I have witnessed remarkable positive changes in children. But every child is different as 'they build their own history' of improvement or full recovery. It is a challenge to predict the results and to respond to these kinds of frequently asked question by parents, "How many days a week do we need to do the exercises?", "How long will it



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take?”, “How many sessions a week do we meet with the therapist?”, “How can we recognize if the method is effective?”, “Will our child improve?”, “What can we expect for our child’s future development?” All these questions are so heart-touching as they are about “MY CHILD”, their mostly beloved child in the world. I conversed with them on all these questions and shared examples – some with easy results and other more challenging ones – that depend on age, therapy time length and intensity, severity of the neurodeficits or nerve system damage, on quality of the Home Program by parents or helpers. One very important observation, from my professional point of view, is that MNRI®, under any and all these conditions, brings better and more stable results within a shorter time period than I have seen in any other method.

With Zuzia, we started with weekly visits and I trained the parents for their Home Program. At the beginning of our work, Zuzia was very hypersensitive for touch, with extreme tactile defensiveness and a fear of height, new places, and people and her motor abilities and skills were delayed significantly.

During her first visit, the initial MNRI® evaluation of reflex patterns (April 4, 2012) showed that the development of Zuzia’s major number of reflex patterns was on an immature/dysfunctional level with average score of 5 points (indicating incorrect reflex patterns with deep dysfunction) to 8.5 points (incorrect pattern with some correct features; level of average dysfunction of a basic reflex pattern) compared to the norm – 16-17.75 points (see the *Assessments* article in this book). Here are some brief descriptions of her Pre-Assessment results on reflex patterns (see more in Table 1):

- Upper limb reflexes – Hands Grasp (5.25 points), Hands Pulling (6.25), Hands Supporting (6.25), Sequential Fingers Opening and Closing (6.5), Babkin Palmomental (6.25) were causing a lack of manual dexterity; and Oral-Facial – Sucking Reflexes (7), Swallowing (6.5), Chewing (5.5) were resulting in poor oral-motor coordination, articulation, and language. These reflexes were causing Zuzia to have limited development of her non-verbal and verbal communication.

- Lower limb reflexes – Babinski (6.25), Foot Tendon Guard (7.25), and Foot Grasp (4) were not allowing her to coordinate the links between her ankle, knee, and hip joints and for standing with grounding. Her Crawling Reflex (5) and Automatic Gait (6.25) were strongly delayed resulting in her inability to crawl and walk.

- Spinal Galant (6.75) and Perez (6.75), Trunk Extension (6.25), and Landau (5.25) were negatively affecting her vestibular-proprioceptive system and thus her postural coordination and control were very poor. Her Perez was causing improper links with Leg Cross Flexion-Extension additionally inhibiting her walking and crawling.

- Rolling over patterns – Segmental Rolling (4.25), Spinning (5.5), Locomotion (4.25), and Flying and Landing (3.25) were dysfunctional and pathological; they were resulting in a lack of mobility and lack of ability for rational movements, poor work with her vestibular system, and a lack of spatial orientation development.

- Zuzia’s Asymmetric Tonic Neck Reflex (ATNR - 8.25) which affects the Stapedius Reflex was dysfunctional.

- Her visual reflexes – the Eye-Tracking, Ocular-Vestibular (7.75) and Opto-Kinetic (7.75) were at a very low level of development narrowing her visual span, limiting the work of her eyes for horizontal and vertical viewing and tracking, and affecting the vestibular system.

- The low level of development of reflexes responsible for the development of gross motor skills were Crawling (5), Automatic Gait (5.25), Leg Cross Flexion-Extension (6.25), and the Symmetric Tonic Neck Reflex (STNR, 7.75) which resulted in poor coordination and low precision of movement.

- Her Moro (7.75) and Fear Paralysis (7.25) (responsible for protection and survival) were the reasons for her tactile defensiveness and fearfulness. Based upon her reflex pattern pre-Assessment, I determined the MNRI® exercises and techniques that were essential to use for immediate and future benefit. Knowledge of reflex parameters and features is always very helpful in choosing techniques and programs; so, in case of Zuzia, this truly helped to accelerate her delayed neurodevelopment and to achieve success for very specific results, and the results that followed were incredible, almost unbelievable. The MNRI® techniques selected,



Zuzia: therapy can be fun!

from Neuro-Structural Reflex Integration, Reflex Re-patterning and Integration, Archetype Movements Integration, Oral-Facial and Auditory Reflexes Integration, Breathing Reflex Integration, and Tactile Integration specifically reflected Zuzia's needs for repatterning and integration of her reflex circuits.

During the first sessions, she cried a lot, so I focused on Tactile Therapy to reduce her tactile defensiveness and to create more harmonious relationship for us both. I also used exercises for Abdominal Sleep Posture to help reduce her stress from sleeplessness (which was significant) and to release her emotional overprotection. She needed time to get used to my new therapy space, the situation, and me. At the end of the first session, she already calmed down and looked happier. During our next session, I gradually began introducing more new MNRI® techniques and teaching her mother the exercises to do at home on a regular basis, as this is part of the MNRI® concept, to teach and equip parents with techniques for them to use as support. Zuzia's mother was consistent and followed my suggestions with great enthusiasm. The techniques I taught her were simple and manageable, and with time, the parents grew in their knowledge of profound 'parental' skills to deal with Zuzia's problems.

The following therapy sessions with Zuzia were much calmer, she became cooperative and our work began to run very smoothly and efficiently. She was absolutely happy to have the reflex integration therapy. As the result of the techniques, Zuzia achieved a considerable improvement in the development of reflexes (see Table 1 and Figure 1 below) which influenced her positively in her many abilities and skills (Post Assessment on August 5, 2014):

Upper Limb reflex patterns – Hands Grasp (10.5 points), Hands Pulling (12), Babkin Palmomental (11), Hands Supporting (12.5), Sequential Fingers Opening and Closing (9.5) explained her great improvements in manual dexterity. The first results that we noticed in Zuzia was improvement in the Hands Supporting Reflex pattern. Its improvement together with the Moro Reflex and Fear Paralysis, allowed Zuzia to better cope with falls and



Zuzia receiving MNRI® therapy on her fingers.



Zuzia showing Trunk Extension.

get up easier.

- Lower limb reflexes – we saw improvement in her Babinski (10.5), Foot Tendon Guard (11.5), and Foot Grasp (11) which allowed her to keep her feet straight with no improper adduction inwards and improve rotation and mobility in her ankle joints, coordination with knees and hips, and standing being grounded. Her Crawling Reflex (10.5) and Automatic Gait (12) improved significantly and Zuzia became able to crawl and walk.

- Spinal Galant (11.5) and Perez (9), Trunk Extension (12), and Landau (9.5) started supporting her proprioceptive system well and improved her righting mechanisms and postural control. The problems with negative compensation of Perez and Leg Cross Flexion-Extension dissolved and she became capable of cross-lateral movements, walking and crawling. Subsequently, her grounding and stability (with better distribution of body weight on her feet) also improved. Also, we saw a significant improvement in her balance and mobility – walking, sitting, and moving on knees, etc.

- Rolling over patterns – we saw improvements in the Segmental Rolling Reflex pattern (9), Spinning (9), Locomotion (7.5), and Flying and Landing (5) increased Zuzia's mobility and abilities for rotational movements, spatial orientation of her overall flexibility in joints and movements.

- Zuzia's Asymmetric Tonic Neck Reflex (ATNR, 10), which affected the Stapedius Reflex and her auditory processing, became functional and impacted her language coding/decoding and speech significantly.



## REFLEXES

- All her visual reflexes improved – the Eye-Tracking was more free from her Head Righting, Ocular-Vestibular (9.5) and Opto-Kinetic (11.5) created wider visual span with more visual stability, fluency, and mobility of her eye movements. Her whole body movements improved with her eyes for horizontal and vertical gaze and tracking, which affected the vestibular system.

- The change of reflexes responsible for the gross motor coordination – Crawling (10.5), Automatic Gait (12), Leg Cross Flexion-Extension (13), and STNR (11.5) resulted in better motor coordination, precision of movement, spatial, and motor-goal orientation. Zuzia became stronger physically and so confident that, after 6 months of our work, she did her first independent steps and started walking. What a joy it was for all members of her family and myself to watch this special moment of her development!

- Changes in her Moro (11) and Fear Paralysis Reflex patterns (10.5) resulted in her ability for self-protection mechanisms, as seen in a decrease in tactile defensiveness and desire to touch things and people, and to communicate with them. She became much more courageous in her home environment and, outside of home, she had less fear and began communicating with new people.

- In the meantime, her mother started toilet training exercises for Zuzia using Babinski, Foot Tendon Guard Reflexes, and also Spinal Perez and Galant. Zuzia very soon started regulating her toilet physiological needs. The changes came very quickly.

We continued working with Oral-Facial Reflex techniques to minimize her intense salivation and support her speech development. It took a lot of time to work with Sucking (11.5), Swallowing (9.5), and Chewing (9) Reflex patterns. After surgery on her tonsils, in between sessions, Zuzia still drooled badly. We used the Oral-Facial Reflex integration to target this problem and it brought quick results – the hypersalivation was resolved. The role of MNRI® was obvious – it caused an increase of oral-motor coordination, better articulation, and a desire to self-train her language development. She began initiating communication herself, and her non-verbal and verbal communication became richer and more interesting. Her abilities for thinking processes improved for comparison, classification, analysis, and comprehension.

When she pronounced the first words, “Mom”, “Dad”, “do not touch”, “release”, “give”, “go” – it was endless happiness for us. But, with the next step, her speech improved with such speed, it amazed all the people that knew her. All of a sudden, one day I heard not just words or just sentences, but the whole concepts, such as, “You are my favourite person, I love you so very much” and “When are you moving to my house?” “You can sleep in my room. I have a mattress in my room for you.” Tears filled my eyes and my heart was full of joy and gratitude... what can be more wonderful than to see such growth in a child and the development of such a warm and loving personality?

Today, Zuzia is a most lovely four year-old girl, full of joy and grace. She goes to a public kindergarten, walking and moving independently. Talking to Zuzia is a real pleasure. Her way of perceiving events, exploring the world, and her way of thinking allows you to see the surprising world of development and its beauty in process. We still need to continue working on her flexibility, stability, and motor coordination control. And we know that we will need to work long and hard to reach more successes as we continue on this road but the rewards have been great and we have tremendous incentive.

Table 1. MNRI® Assessment results: Level of Reflex Patterns in Clusters (average points before and after 2 years and 4 months of the MNRI® Program; (for more information about the Assessments, see the *Assessment* article in this book).

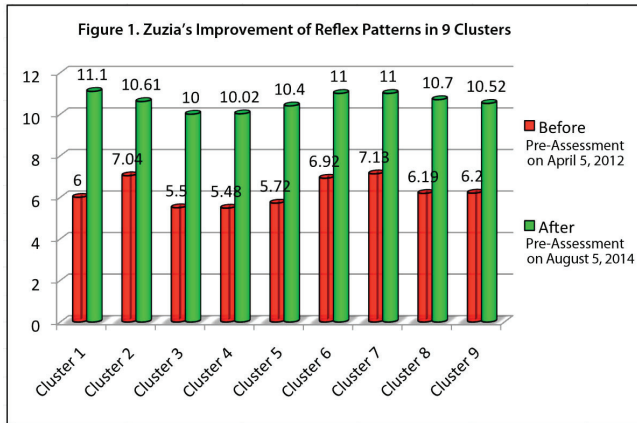
Reflex Groups/Clusters (Points before and after the MNRI® program)	Before MNRI® (average points) Date: April 5, 2012	After MNRI® (average points) Date August 5, 2014
<b>Cluster 1. Upper Limb Reflex Patterns</b> (Hands Grasp – 5.25/10.5, Hands Pulling – 6.25/12, Babkin Palmomental – 6.5/11, Hands Supporting – 6.5/12.5, Sequential Fingers Opening and Closing – 6.5/9.5)	<b>6.2</b> Patterns were incorrect; dysfunction of a basic reflex pattern; sensory system was hypo-sensitive and motor response hypoactive	<b>11.1</b> Patterns are functional, at a low level of development. Sensory and motor system improved significantly.

Reflex Groups/Clusters (Points before and after the MNRI® program)	Before MNRI® (average points) Date: April 5, 2012	After MNRI® (average points) Date August 5, 2014
<b>Cluster 2. Tonic Reflex Patterns</b> (Core Tendon Guard – 8/13.25, TLR – 6/8.5, ATNR – 8.25/10, STNR – 7.75/11.5, Abdominal -6.25/10.5, Spinal Galant – 6.75/11.5, Spinal Perez - 6.25/9)	<b>7.04</b> Patterns were incorrect; dysfunction of a basic reflex pattern; sensory system is hyposensitive and motor response hypoactive.	<b>10.61</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.
<b>Cluster 3. Righting Reflex Patterns</b> (Trunk Extension- 6.25/12, Head Righting – 8/13, Spinal Perez-6.75/11.5, Landau-5.25/9.5, Foot Tendon Guard- 7.25/11.5, Hands Pulling-6.25/12, Hands Supporting-6.25/12.5, Leg Cross Flexion-Extension-6.25/13, Thomas Automatic Gait-5.25/12, Spinal Galant-6.75/11.5, Flying and Landing-3.25/5, Segmental Rolling-4.25/9, Spinning-5.5/9, Locomotion-4.25/7.5, Balancing – 6.5/11) – 6.5/9.5)	<b>5.5</b> Incorrect/ Deep dysfunction of a basic reflex pattern.	<b>10</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.
<b>Cluster 4. Lower Limb Reflex Patterns</b> (Babinski – 6.25/10.5, Foot Grasp-4/11, Foot Tendon Guard-7.25/11.5, Leg Cross Flexion-Extension-6.25/13, Thomas Automatic Gait-5.25/12, Bauer Crawling-5/10.5, Trunk Extension-6.25/12, Core Tendon Guard-8/13.25, Grounding-3.25/11.5, Flying and Landing-3.25/5)	<b>5.48</b> Incorrect pattern. Incorrect pattern. Deep dysfunction of a basic reflex pattern. Sensory system was hyposensitive and motor response hypoactive.	<b>10.02</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.
<b>Cluster 5. Gross Motor Reflex Patterns</b> (Core Tendon Guard-8/13.25, STNR-7.75/11.5, Trunk Extension-6.25/12, Thomas Automatic Gait-6.25/12, Moro Embrace-7.75/11, Fear Paralysis-7.25/10.5, Spinal Galant-6.75/11.5, Spinal Perez-6.25/9, ATNR-8.25/10, Segmental Rolling-4.25/9, Spinning-5.5/9, Locomotion-4.25/7.5, Flying and Landing-3.25/5, Landau-5.25/9.5, Grounding-3.25/11.5, Hands Pulling-6.25/12, Hands Supporting-6.25/12.5)	<b>5.72</b> Incorrect pattern. Deep dysfunction of a basic reflex pattern.	<b>10.04</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.
<b>Cluster 6. Oral-Facial/Visual and Auditory Reflex Patterns</b> (ATNR-8.25/10, STNR-7.75/11.5, Convergence- Divergence – 7.75/11, Babkin Palmental-6.25/11, Hands Grasp-5.25/10.5, Hands Pulling-6.25/12)	<b>6.92</b> Patterns were incorrect; dysfunction of a basic reflex pattern; sensory system was hyposensitive and motor response hypoactive.	<b>11</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.
<b>Cluster 7. Protection and Survival Reflex Patterns</b> (Core Tendon Guard-8/13.25, Fear Paralysis-7.25/10.5, Moro -7.75/11, Hands Supporting-6.25/12, Hands Grasp-5.25/10.5, Bonding- 8.25/13.5)	<b>7.13</b> Incorrect pattern. Deep dysfunction of a basic reflex pattern.	<b>11.8</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.
<b>Cluster 8. Curiosity/Cognition Supporting Reflex Patterns</b> Pavlov Orientation-7.13/12, Core Tendon Guard-8/13.25, ATNR-8.25/10, STNR-7.75/11.5, Babkin Palmental-6.25/11, Hands Grasp-5.25/10.5, Hands Pulling-6.25/12, Bauer Crawling 5/10.5, Leg Cross Flexion- Extension 6.25/13, Landau-5.25/9.5, Flying and Landing-3.25/5, Segmental Rolling-4.25/9, Spinning-5.5/9, Bonding-8.25/13.5)	<b>6.19</b> Patterns were incorrect; dysfunction of a basic reflex pattern; sensory system was hyposensitive and motor response hypoactive.	<b>10.7</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.
<b>Cluster 9. Reflex Patterns Supporting Emotional Stability, Maturation</b> (Bonding - 8.25/13.5, Fear Paralysis-7.25/10.5, Moro Embrace-7.75/11, Core Tendon Guard – 8/13.25, Pavlov Orientation-7.13/12, Babkin Palmental-6.25/11, Hands Grasp-5.25/10.5, Hands Supporting-6.25/12, Landau-5.25/9.5, Flying and Landing-3.25/5, Segmental Rolling-4.25/9, Spinning-5.5/9)	<b>6.2</b> Patterns were incorrect; dysfunction of a basic reflex pattern; sensory system was hyposensitive and motor response hypoactive.	<b>10.52</b> The pattern is on the boundary of normal function and dysfunction. Elements of the correct pattern.

Table 1 (continued).

### Summary and Conclusions

The use of the MNRI® concept and techniques brings results, even when it is used for a rather short time frame for a child with CP. In my more than 15 years of experience working with children with developmental challenges, I have learned that it is important to begin the intervention as soon as possible – the sooner treatment is started, the faster are the effects to their development. The choice of strategy is important, thus the Assessment role is big and an essential step for deeper analysis of integration techniques and procedures to build a strong neurophysiological foundation through reflexes. Another important aspect of success is equip-



Graph 1. MNRI® Assessment results: Level of Reflex Patterns in Clusters (average points before and after 2 years and 4 months of MNRI® therapy)

ping parents with manageable techniques for a continuous Home Program.

Reflex integration must be a first method of work for children, especially with those with developmental challenges. Other methods can then be used to build specific abilities and skills, but without MNRI® first, those therapies are likely to be ineffective. Without working on reflex development, using other therapies are like building a house on muddy ground. MNRI® integration processes allow the children to succeed as it focuses on two levels of integration at the beginning of the program that is not well presented in other methods: a) coordination of the elements of a basic reflex patterns (unconditioned naturally developed from 0 – 4 months of life) taking into account their developmental chronology, and then

b) the integration of the biomechanical aspect of a reflex pattern, with its defensive tasks. These two levels of integration offer opportunities for rerouting and strengthening the neurophysiological circuits of reflexes while maximizing the maturation (myelination) of lower motor neurons and extrapyramidal nerve pathways. It guarantees the foundation for all other aspects of our being: physical-motor, behavioral, emotional, and cognition which is what the child, adults – therapists and parents, are all focused on.

Zuzia, a child with CP with whom I used the MNRI® techniques, achieved a great results in many important spheres: motor and postural coordination and control, transition of defense responses into positive protection and courage, improvement in eating and speech functions, and also in her comprehension. Along the path of these gains, she also found her own unique personality and the gift to her and her family was huge. She still needs a lot of work to reach her maximum potential, and most importantly, we are confident she will reach it.



*I congratulate Zuzia and her parents on their great success in everything - physical skills, emotional growth, speech, and her cognition. I wish you good health and the realization of all your dreams for Zuzia's development! I am also thankful for her invitation to live in her home and sleep by her on her mattress! – Anna Krasowska*