



TRAUMA RECOVERY
**REFLEX INTEGRATION
AND IT'S IMPLICATION ON LEARNING,
DEVELOPMENT AND HEALTH**

**THE MASGUTOVA METHOD OF
NEURO-SENSORY-MOTOR AND REFLEX INTEGRATION**

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*"The first infant movements do not disappear; they continue to work
in union with higher nervous formations..."*

L.S. Vigotsky, outstanding Russian psychologist (1930).

This Program is based on the **Masgutova Method of Neuro-Sensory-Motor and Reflex Integration**. It consists of two main aspects:

- 1) Diagnosis of primary movement patterns and reflexes;
- 2) Correction and integration of the primary movement system of individuals of different ages, health, and mental states, for better self-management and functioning.

The goal of the program is facilitation of the process of reflex integration within neuro-sensory and brain processing, and also motor activity. This type of integration serves as the neuro-physiological and neuro-developmental basis for successful learning, development and self-management of health.

Our program is oriented on optimal organization of natural functioning on the levels of:

- sensory-motor integration for appropriate neurological functioning,
- primary movement activation for support of the self-regulation processes in

the "Body-Mind" system,

- movement and emotional processes for emotional stability and growth,
- movement and mental processes for successful development and learning.

The main concept of this method of integration is that primary movements present natural genetic programs within three aspects of a reflex circuit activity:

- (1) sensory stimulation and recognition of the stimuli by our sensory system,
- (2) brain processing (recognition of stimuli by the brain on the level of protection or development),
- (3) and the motor response as the reaction to the sensory stimuli.

The reflex pattern integration process offers phenomenal support for health care, learning and development. This program on Neuro-Sensory-Motor and Reflex Integration is based on the research work carried out during the last 17 years in

Russia, Poland, USA, and Canada with 2,990 children ranging from the age of 1 month to 18 years; on practical work with 24,064 clients from different countries, and also teaching over 3,000 specialists and parents. Remarkable results are achieved in the work with children and adults in the International Camp for challenged people in Poland and the USA, which is based on the implementation of the Masgutova Method.

Human Development has created a series of primary movements and reflex patterns. A reflex is a "body-brain" response to sensory or proprioceptive stimuli. As an automatic response, it presents an inherent genetically encoded program. It is a neuro-physiological unit which affects and directs self-regulating processes of health, development and learning.

In defining a reflex, we base our understanding in the framework of higher and lower nervous system activity as developed by Russian physiologists I.P. Pavlov, I.M. Setchenov and expanded by A.A. Uhtomsky, N.A. Bernstein, and P.K. Anokhin. The most traditional and widely used definition of a reflex is as follows:

Reflex – is a reaction of the nervous system caused by stimulation of receptors of skin, tendons, muscles, mucous membrane and pupil receptors.

(1) The reflex, on one hand, exemplifies the general ability of an organism to respond to a stimulus. Stimulus may be the external environment (sound, light, touch, smell), or internal human environment (change of blood chemical composition, irritation of internal organs, etc.) The response to any stimulus is a muscle contraction, which causes motion or gland secretion (outputting of saliva or gastric juice).

(2) On the other hand, reflexes can also be considered as some kind of "program" of primitive movements and actions which allow the organism to survive in specific conditions. These are unconditional inborn reflexes.

Reflexes serve mainly as the basis for our protection in stress and survival.

Reflexes are also the fundamental neurological building block for our developmental processes, and crucially influence our brain functioning as well as mental and intellectual processes as we mature. For various reasons, in utero, at birth, or later in life, a child and adult may experience some trauma that affects his or her ability to properly access or utilize positive protective and developmental possibilities of reflex patterns. These stressful situations can cause a child/adult to retain or revert back to these early infant reflexes. Even though these reflexes are activated for the sake of protection or survival, the process can lead to challenges such as overprotection and health issues.

Stress – physical, emotional or mental – is the main reason for activating negative protection, muscle tension, impulsive behaviours, primitive reactions and reflexes, which lead to a regression in self-regulation processes. Impulsive reactions and reflexes play a protective and survival role, taking the reasoning processes away from the neo-cortex of our brain. Some of these primary reflexes are activated because of poor health states, lack of appropriate movement, poor motor developmental problems, sensory processing disorders, and poor integration with intentional movements in infancy (and utero.) The other survival reactions and reflexes are triggered because of deprivation of actual needs, suppression of the

emotional sphere and through everyday life stresses.

The affected reflexes are “active” and therefore are non-integrated. As a result, a child/adult develops unconstructive or even abnormal movement patterns, compensations and may be unable to progress in self-regulation of health. They also meet resistance in the development of more mature movements, skills, or intellectual processes.

In our research on groups of 1 month to 18-year-old children (2,990 – in total),

--78 % of them (age: 4 to 15 years) had different difficulties with poor storing (memory) while demonstrating an inadequate, active, or hypoactive Asymmetrical Tonic Neck Reflex.

--57% cases with poor development of a Symmetric Tonic Neck Reflex showed poor transition from concrete operations to logic and abstract ones, and hyperactivity (ADD and ADHD.)

--58% of the children with attention disorder had problems with the inappropriate functioning of the Spinal Gallant and Pereze Reflexes, and also Asymmetrical Tonic Neck.

--54% of children had challenges with allergies and hypersensitivity for food and poor Spinal Pereze formation

--72% had problems with urine system functioning (including Enuresis) and hyperactive Spinal Galant Reflex.

These examples show how incomplete integration of reflex patterns can be seen as a probable connection to many challenges – functional and structural. We suggest that the dysfunction of reflexes is a probable reason for poor self-regulation processes. This can be explained through the following:

- The Brain-Body System mixes or

confuses the sensory processing and motor response (for example: the stimulation of the Babinski can trigger the reaction corresponding to Foot Tendon Guard or Foot Grasping; the stimulation of Pereze can present a Leg Cross Flexion response; the Hands Pulling can trigger a Hands Supporting reaction),

- Poor integration of the natural components of a reflex can be noted within its circuit: pattern correspondence (sensory-motor links), strength of reaction, direction of movement, timing, symmetry and others.

- Poor integration of the reflex patterns with intentional movements, motor skills and abilities.

In infant reflex structures we have both dynamic and postural reflexes. They correlate with the reactions of “Fight and Flight” and “Freezing”. These reactions serve as protection. In cases where they “overwork” they cause challenges. So it is important to recognise the timing of their appropriate development in order to support the formation and integration of a reflex pattern.

The authors are developing the idea of the integration of the infant reflex on the level of:

- sensory-motor circuit functioning,
- its basic pattern (protection), and variants (developmental potentials),
- intentional movements, skills and abilities and whole body movement system.

This concept is original and is different from the traditional concept of reflex extinction/inhibition.

In this work we address the infant reflexes for several reasons:

- Infant Reflexes determine the motor development – they play a certain role in building movement patterns and also influence the formation of the motor and

cognitive skills and abilities (L. Vigotsky, J. Piaget).

- Development of the movement system in infancy crucially influences the formation of the brain, mental and intellect processes in the future life of a person (I. Pavlov, I. Setchenov, P. Simonov, J. Konorsky, L. Vigotsky, J. Piaget, A. Luria, L. Lisina).

- Infant Reflexes are the neurological basis for the development of intentional and controlled movements, giving the possibility to make choice on the level of reasoning (L. Vigotsky).

- Infant reflexes display a protective function and help us to survive in stress situations. We need them and must take care of their maturation and appropriate functioning for them "to act" from a positive protection level. A delayed, non-matured, or hyperactive reflex is limiting our behaviour and thinking and causes a lack of coordination in the "Body-Mind" on different levels (S. Masgutova).

- Each time we are in a stress situation we return again and again to the first movement patterns – reflexes (L. Vigotsky, N. Berstein, L. Semionova, S. Masgutova).

- Infant reflexes are designed by nature for the neurological support of the developmental process itself and act as a the foundation to create the strongest potential of self-regulating mechanisms of the "Body-Mind" system (S. Masgutova, P. Curlee).

Understanding of the nature of Dynamic and Postural Reflexes explains the basis of individual motor development on a deep level. Facilitation work with these reflexes is directed at releasing their negative effect on different aspects of a persons functioning: health, emotional, and intellectual (cognitive) spheres. This work can be a very supportive tool for new solutions based on the "reason and source"

of the problems of poor motor development and challenges.

The Diagnosis of Integration of Dynamic and Postural Reflexes allows us to clear up specific disorders in the reflex circuit functioning. It is based on evaluation of the reflex pattern depending on:

- the age of the child/adult,
- neurological state of a person and his/her possible symptoms,
- structure and dynamics of the reflex evolution (as the inherent genetic program).

The principles of the evaluation are based on:

- Correspondence of the reflex as an automatic and spontaneous reaction to stimuli according to the age of the individual,
- Sensory-motor integration of a reflex,
- Dynamics of the reflex development and integration,
- Reflex characteristic components – correspondence of sensory-motor pattern, appropriate timing, strength of the reaction, correct direction in motor response, symmetry in motor response.

The correction and facilitation aspects of the Masgutova Method (re-patterning and integration techniques and exercises) has the task of activating proprioceptive, tactile, audio-visual systems for healthy functioning and learning. This concept is different from those that propose to inhibit the active reflexes that are demonstrated in later ages of challenged children and adults. We show the natural approach of integration of reflex and primary movement patterns - our genetic programs - with learned and controlled skills and abilities. Orientation of correction exercises and movements is the "training,

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VIGOTSKY

MOVEMENT DEVELOPMENT

maturation, and the coordination of the reflex pattern". This method also proposes natural, soft, and friendly movements, and games. Integrating dysfunctional or inactive reflexes allows the body-brain system to access normal movement patterns and enables growth and progresses these natural programs allowing improvements to be achieved in even the most severe cases.

The Concept of Sensory-Motor Integration of a Reflex

Each reflex is the form of a response to certain stimuli. The reflex circuit consists of the activity of:

- the afferent nervous system (receptors, afferent nerve fibers bringing the nerve impulses to the brain),
- certain brain/nerve system centers designed for the processing of the sensory or proprioceptive information,
- the efferent nervous system (efferent nerve fibers bringing back the nerve impulses in a form of a command to the muscles and organs/ glands to organize the reaction/motor response).

According to the neurophysiology of the nervous system, each reflex must integrate on the sensory-motor level. A certain sensory stimulation must cause a corresponding motor/gland response. This type of specific link between the sensory and motor aspects in a reflex circuit through the brain/nerve system processing is genetically based and has been trained throughout the years of human existence.

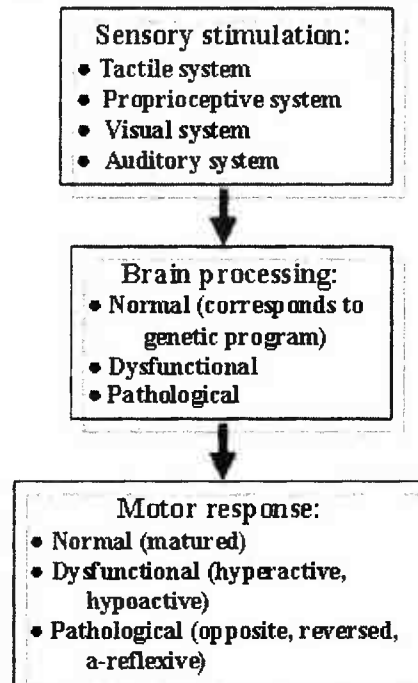


Fig. 1. Three aspects of sensory-motor integration of a reflex circuit.

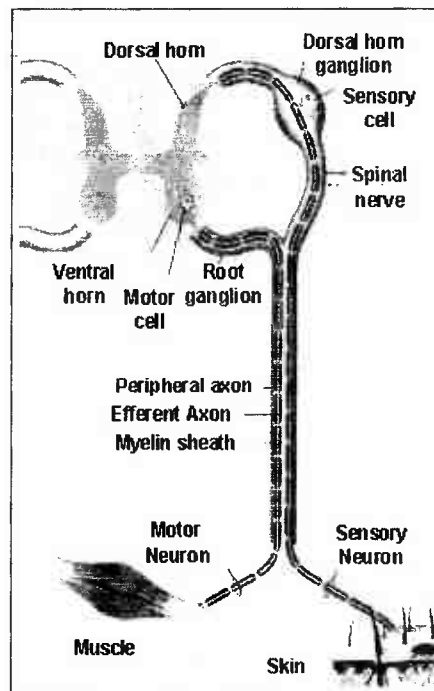


Fig 2. Sensory information comes to the brain and brain determines the character of the motor/gland response.
If the sensory stimulus is not recognized by

the sensory apparatus, and as a result is misinterpreted by brain---or if the efferent nerve system brings the command the wrong way---then the development of a reflex pattern will not be appropriate. This means that the maturation and integration of the reflex with controlled movements and skills will be in delay and will not be reliable, especially in cases of new learning and stress.

Concept of the Dynamic of a Reflex Integration

Each reflex emerges at a certain time, and develops its own basic pattern (during the first three phases.) It then goes through a transition time (during the fourth phase) preparing for the development of the variants (during last fifth, sixth and seventh phases).

Each phase has its own task. For example, the basic pattern is responsible for coding the sensory-motor circuit, creating the nerve network for the connection of specific types of stimuli with physiological functioning and protection. The transition phase is important for the preparation of the basic pattern to move further in its growth pattern. The variants of a reflex develop during the last phases and are characterized by a well developed nerve network.

This process is ready to go from the level of protection to level of bringing it into the reflex traits of the intentional response. Maturation of the nerve net system for a reflex circuit happens. The role of these phases is to extend the development of a reflex and to create the grounds for their integration with the motor

skills and abilities, which serve as a foundation for learned skills (including school skills such as elementary reading, drawing, writing, and calculating). The delay of a reflex development or the jumping over any of the phases, always affects the formation of future skills – we can see the delay in the next level of their development. Jumping over the phases of the reflex means it will not be able to create the appropriate nerve network, so it will cause dysfunctions or compensations (positive or negative), which never are true patterns and are not reliable in situations of

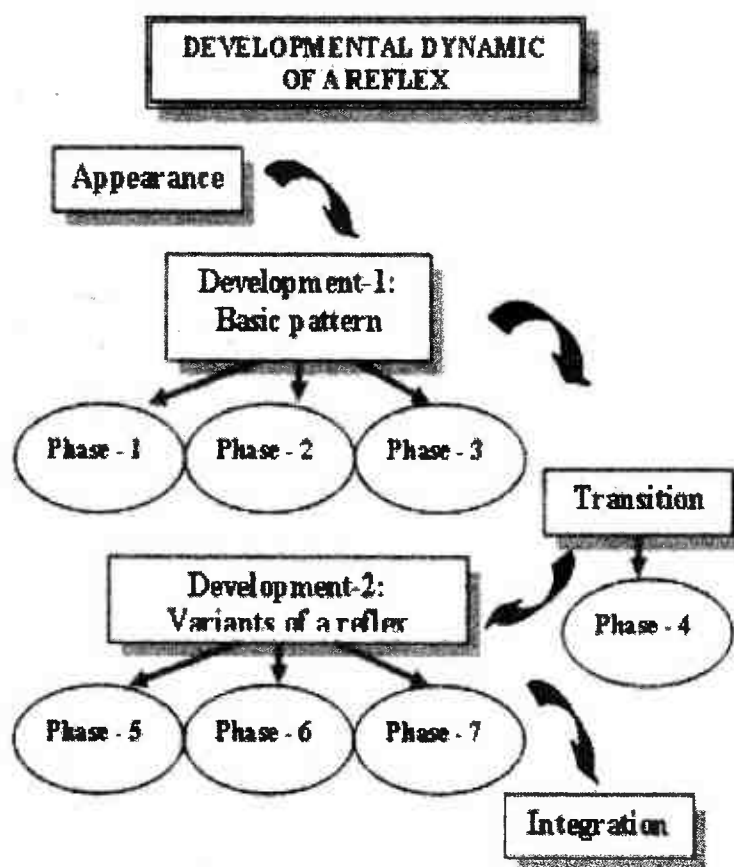


Fig. 3. Reflex development dynamic

stress or unexpected transition. It is so important for a reflex to go through each phase for complete development, maturation and integration. This concept, as we mentioned above, is completely different

from the traditional understanding of the inhibition of a reflex.

Reflex Characteristic Components

The main characteristics that we are evaluating are: correct pattern (sensory-motor coordination and outcome), appropriate timing and dynamics, correct motor direction, strength of the reaction, and symmetry. All these characteristics are evaluated through the recognition of the motor response only. Measurement of the level of sensory sensitivity and brain processing are not possible to directly appraise at this time.

Pattern of a reflex. Pattern is the co-ordination of a set of reactions and/or movements organizing the stimulation and response of the sensory-motor system = the reflex

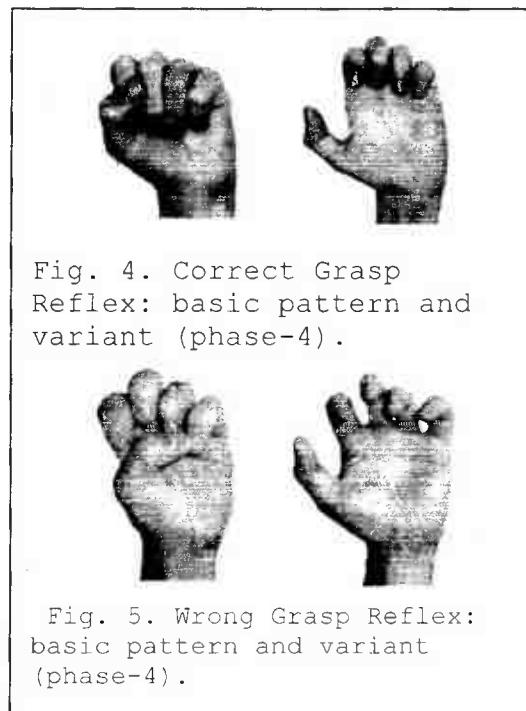
Direction of motion in a reflex response.

Each reflex presents a certain sequence of reactions or movements which finish in a posture or are continued by a motion in a specific direction. Our body posture and muscle system serves to organize these postures and movements.

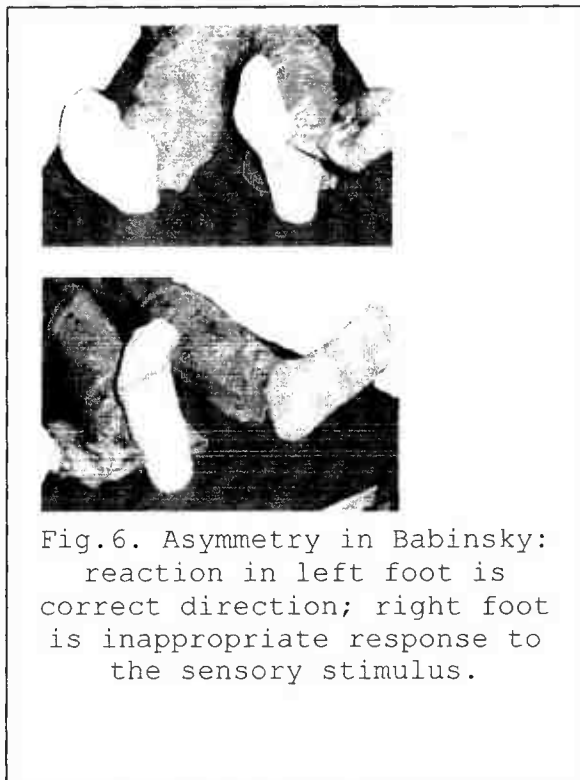
Timing and dynamic. The reflex circuit works within the sensory input, brain processing, and motor response. The motor response must take approximately 10^{-7} bit/seconds from the moment the sensory stimulations starts. The reaction must happen within a very short time – it must be quick because the priority function of a reflex is to create protection. The delay of a respond in time can postpone the protection needed at any moment and can become the reason for injuries or developmental delays.

Strength of the reaction. This characteristic of a reflex reaction means the physical and energy strength supplied by the appropriate

tone of the muscle/ligaments system. The strength of the muscles serving the functioning of a reflex pattern must reflect the intensity of the stimuli. Hyperactive, hypoactive, or absence of a reaction are inadequate responses.



Symmetry. Motor reaction in a reflex circuit can be evaluated also in the comparison of the bilateral organization of the body and its limbs. Symmetry can be seen in the body structure, direction of the motion of a reflex response, time, and strength of the reaction.



Workshops about our program shows the basis of the work with some reflex patterns such as:

- The "Red and Green Light" Tendon Guard, and Labyrinthine Tonic Neck – for the self-regulating processes for well being,
- The Asymmetrical Tonic Neck – for hearing and memorizing and the development of the proprioceptive system,
- The Symmetrical Tonic Neck, Truck Extension – for body posture control and binocular vision and binaural hearing,
- The Spinal Perezze and Galant – for cross motor coordination development and brain detoxification
- The Eyes Horizontal and Vertical Tracking, Eyes Staring - for vision functioning, reading and writing,
- The Robinson Grasp and Hands Pulling - for supporting writing skills and drawing,
- The Sequential Fingers Opening - for calculation skills and other mathematic skills.

Our research results-- on reflex integration in children and adults with challenges: CP (Cerebral Palsy), Autism and Autistic Spectrum, ADD and ADHD (Attention Deficit Disorder, Attention Deficit and Hyperactive Disorder), Dyslexia and Hyperlexia, Genetic Problems, FAS (Fetal Alcohol Syndrome)—have shown patterns of the dysfunctional reflexes within each group of challenges (look at the table below with results on research with participation of children).

Dysfunctional Reflexes in Groups of Children with Different Challenges (2,990 children, age: 1 -18)

Our program is created for the facilitation of the growth of potential in children and adults with challenges: CP

(Cerebral Palsy), Autism and the Autistic Spectrum, ADD and ADHD (Attention Deficit Disorder, Attention Deficit and Hyperactive Disorder), Dyslexia and Hyperlexia, Genetic Problems, Developmental Delays, and FAS (Fetal Alcohol Syndrome).

The results of our work with individuals with challenges strongly show the importance of appropriate correction procedures of dysfunctions on the level of primary movements and reflexes. They have clearly demonstrated that reflexes are the units of the sensory, motor and proprioceptive systems influencing health, learning and development. Our program demonstrates new possibilities arising from the use of natural resources which awaken the self-regulating process through reflex integration.

Our method is offered as a strong support for the creation of new developmental possibilities and programs for children and adults. Our reflex integration methods involve natural, non-invasive movements that can be easily learned by parents of challenged children, adults, and professionals who work with challenged individuals. These techniques do not require a lot of external resources and simply complement other therapies.

The Masgutova Method includes the following programs:

- Neuro-Structural Reflex Integration
 - Tactile System Integration
 - Infant Reflex Pattern Re-patterning:
- Sensory-Motor Integration of the reflex circuit
- Lifelong Reflex Pattern Re-patterning and Proprioceptive System Activation
 - Visual and Auditory Reflexes Integration

- Oral-Facial Reflexes Integration
- Dance-Therapy
- Pet Therapy for Reflex Integration
- Aquatic Reflex Re-patterning
- Art Creation and Reflex

Integration.

This programs are offered by our group of professionals specialized in the Masgutova Method of Neuro-Sensory-Motor and Reflex Integration (www.masgutovamethod.com – Team).

Literature

1. Vigotsky, L. S. (1966). Development of the higher mental function. In Psychological research in the U.S.S.R. Moscow: Progress Publishers.
2. Wigotsky L.S. (2004). Physiological Studies: Child Development. Moscow.
3. Vigotsky, L. S. (1966). Language and thought. Moscow.
4. Anokhin P.K. (1973). Biology and neurophysiology of the conditioned reflex and its role in adaptive behavior. International series of monographs in cerebrovisceral and behavioral physiology and conditioned reflexes. U.S.A.
5. Danilova N.N., Krolova A.L. (1997). Physiology of the High Nervous System Functioning. Moscow. Literature for studies.
6. Piaget, J.(1954). The construction of reality in the child. (M. Cook, Trans.). New York: Ballantine Books.
7. Piaget, J., & Inhelder, B., with Sinclair-de Zwart, H. (1973). Memory and intelligence. A Pomerans (trans.).New York: Basic Books.
8. Campbell S. (2004). Watch Me Grow! A unique, 3-Dimensional, Week Look at Baby's Behavior and Development Inside the Womb. Carroll and Brown Publishers Limited.
9. Masgutova S.K. (1999). Effect of the

Edu-K Exercises on the Work of Dynamic and Postural Reflexes // Freiburger Kinesiologietage: Institute fur Angewandte Kinesiologie. Kinesiologie Kongress Deutschland. Freiburger.

10. Masgutova S. (2005). Reflexes as the Basis for Infant Neuro-Development and Formation of the Their Motor and Skill Patterns. / New Methods of the Facilitation of the Movement and Speech Development. /International Conference "Neuro-Rehabilitation for Children with Challenges/ Warsaw. Poland (in Polish).

11. Masgutova S., Masgutov D. (2002). My Inner Child: Integration of Lifelong Reflexes into Movement Development. Warsaw, Poland (in English).

12. Akhmatova N.K., S.M., Masgutova S.K. (2000). Integration of Dynamic and Postural Reflexes into Whole Body Movement System. M., Russia.

13. Lundy-Ekman L. (2002). Neuroscience. Fundamentals for Rehabilitation. 2-nd Edition. Pacific University. Forest Grove, Oregon. USA.

14. Akhmatoa N.K., S.M., Masgutova S.K. (2003). Integration of Dynamic and Postural Reflexes into Whole Body Movement System. M., Russia.

15. Sadovska Ludwika. (2001). Neurokinesiology Diagnosis and Therapy of Children with Motor-Developmental Disorders. AWF. Wroclaw, Poland (Polish).

16. Child Neurology (2000). Urban & Partner, Poland,

SVETLANA MASGUTOVA

Received her Ph.D in Developmental and Educational Psychology in 1988. She worked as a lecturer at Universities in Moscow and as a scientific researcher at the Russian Educational Academy. Her doctorate paper on Psychology is based on works by L. Vigotsky, I. Bozovich, I. Dubrovina and N.Tolstykh.

She is currently the Director of the International Dr. Svetlana Masgutova Institute for Movement Development and Reflex Integration™ in Warsaw, and of the Svetlana Masgutova Educational Institute of Neuro-Sensory-Motor and Reflex Integration in the U.S. Svetlana is the author of 85 journal articles on psychology, education, Neuro-Sensory-Motor and Reflex Integration, Educational Kinesiology, Art-Kinesiology™, and movement-based development.

Since 1989, Svetlana has offered leading research on the Neuro-Sensory-Motor and Reflex Integration Methods, and has studied the influence of primary movements on different aspects of development and overall functioning. The main concepts behind her work is to use developmental movement and reflex integration to facilitate sensory processing, emotional recovery, motor-physical and sensory-motor rehabilitation, as well as learning and developmental enrichment.

Dr. Masgutova has received five awards of achievement by Universities in Russia, and in 1996 she received an award from the Educational Kinesiology Foundation (USA) for outstanding results and development of the Educational Kinesiology in Russia. She was also acknowledged through two awards from the parents and specialists in Poland for outstanding results in work with challenged children.

For thirteen years, Svetlana organized and lead experimental work on Developmental Movement and Personality Development in kindergartens, schools, universities and Educational Academy in Russia.

Dr. Masgutova currently lives in Poland and teaches her Neuro-Sensory-Motor and Reflex Integration Programs in Poland and in other countries - Russia, Germany, France, Belgium, Netherlands, Austria, Australia, Sweden, Switzerland, USA, Canada, Israel, Singapore, Argentina, and Hong-Kong.

March 17, 2007.

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CHALLENGE	MAIN REACTION TYPE	SWITCHED OFF REFLEXES		
		AMOUNT	DYNAMIC	POSTURAL
AGGRESSIVE BEHAVIOUR (280)	FIGHT	10 Dynamic: 6 Postural: 4	• Grasp (3) • Hands Pulling (6) • Cross Leg Flexion(7) • Thomas Automatic Gate (5) • Moro (8) • Babinsky (6)	• Bonding (1) • Hands Supporting (9) • Asymmetric. Tonic Neck (2) • Labyrinthine Tonic(4)
WORRY AND FEAR (PHOBIAS) (390)	HIDING (FREEZING) AND FLIGHT	16 Dynamic: 8 Postural: 8	• Grasp (1) • Hands Pulling (8) • Moro (7) • Cross Leg Flexion (7) • Bauer Crawling (1) • Galant Spinal (3) • Perezze Spinal (2) • Babinsky (7)	• Palmomental (8) • Bonding (7) • Hands Supporting (2) • Symmetrical Tonic Neck (3) • Labyrinthine Tonic (6) • Landau (4) • Flying and Landing (7) • Pavlov Orientation (9)
CHRONIC "LATEBLOOMERS" AND DYSLEXIA (580)	HIDING (FREEZING) AND FLIGHT	12 Dynamic: 5 Postural: 7	• Grasp (5) • Hands pulling (8) • Moro (3) • Bauer Crawling (3) • Galant Spinal (7)	• Hands Supporting (6) • Asymmetric. Tonic Neck (1) • Bonding (5) • Symmetrical Tonic Neck (2) • Labyrinthine Tonic (4) • Flying and Landing (7) • Pavlov Orientation (8)
HYPERACTIVITY (480)	FIGHT AND FLIGHT	17 Dynamic: 7 Postural: 10	• Grasp (5) • Moro (6) • Cross Leg Flexion (5) • Bauer Crawling (1) • Galant Spinal (3) • Perezze Spinal (4) • Babinsky (9)	• Palmomental (10) • Hands Supporting (9) • Asymmetr. Tonic Neck (10) • Bonding (10) • Symmetrical Tonic Neck (8) • Trunk Extension (2) • Labyrinthine Tonic (7) • Landau (10) • Flying and Landing (4) • Pavlov Orientation (10)

AUTISM (340)	HIDING (FREEZING)	16 Dynamic: 8 Postural: 9	• Grasp (8) • Hands Pulling (7) • Moro (7) • Cross Leg Flexion (6) • Bauer Crawling (5) • Thomas Automatic Gate (2) • Pereze Spinal (6) • Babinsky (4)	• Hands Supporting (5) • Bonding (1) • Asymmetric. Tonic Neck (2) • Symmetrical Tonic Neck (3) • Landau (6) • Trunk Extension (2) • Labyrinthine Tonic (1) • Flying and Landing (2) • Pavlov Orientation (7)
CEREBRAL PALSY (420)	HIDING (FREEZING) AND FIGHT	15 Dynamic: 8 Postural: 7	• Grasp (4) • Moro (2) • Cross Leg Flexion (5) • Bauer Crawling (5) • Thomas Automatic Gate (4) • Galant Spinal (6) • Pereze Spinal (6) • Babinsky (4)	• Palmomental (10) • Hands Supporting (9) • Asymmetric. Tonic Neck (2) • Symmetrical Tonic Neck (3) • Trunk Extension (2) • Labyrinthine Tonic (1) • Flying and Landing (2)
DELAYED DEVELOPMENT (380)	HIDING (FREEZING)	11 Dynamic: 5 Postural: 6	• Grasp (6) • Bauer Crawling (2) • Thomas Automatic Gate (3) • Galant Spinal (7) • Pereze Spinal (6)	• Palmomental (1) • Asymmetric. Tonic Neck (1) • Symmetrical Tonic Neck (5) • Labyrinthine Tonic (4) • Flying and Landing (8) • Pavlov Orientation (4)
FETAL ALCOHOL SYNDROME (120)	HIDING (FREEZING)	12 Dynamic: 6 Postural: 6	• Grasp (3) • Bauer Crawling (2) • Thomas Automatic Gate (3) • Galant Spinal (2) • Pereze Spinal (2)	• Palmomental (1) • Asymmetric. Tonic Neck (1) • Symmetrical Tonic Neck (3) • Labyrinthine Tonic (4) • Flying and Landing (8) • Pavlov Orientation (4) • Bonding (1)