

The Story of AUTISM

PART 30: PRIMITIVE REFLEXES AND WHAT THEY DO

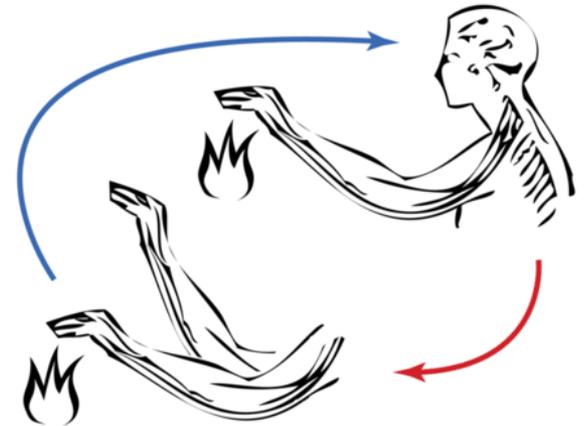


PRIMITIVE REFLEXES – What Are They?

What Is a Reflex?

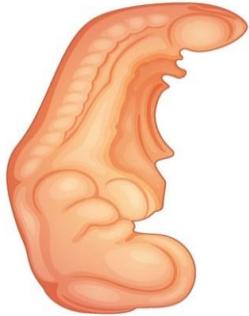
Simply stated, a reflex is a neurological arc that has a specific stimulus and a predictable response.

Primitive reflexes lay the foundation for our sensory, neural and motor development.



FIRST TRIMESTER

Primitive reflexes begin to form during the first trimester of pregnancy and continue forming as the fetus develops and becomes more active in the womb.



Foetus - 4 weeks



Foetus - 10 weeks



Foetus - 16 weeks



Foetus - 20 weeks

FIRST TRIMESTER

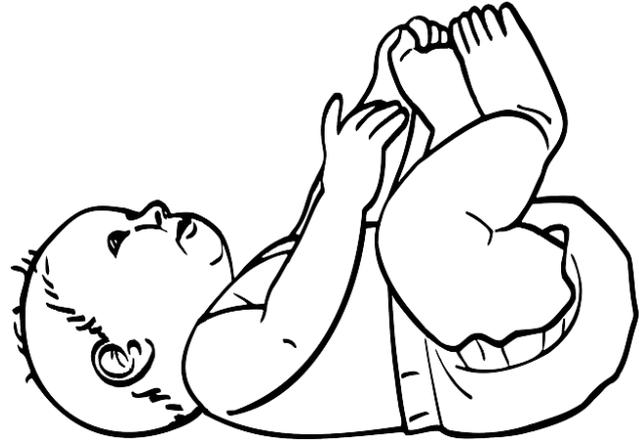
By the time a baby is born, most of the primitive reflexes are in place. These reflexes make it possible for the him to take his first breath and extend his body after 9 months of cramped confinement in the womb.

On the following slides I am going to briefly present the **primitive reflexes that are at the core of healthy neurological development.**



PRIMITIVE REFLEXES

I am just going to cover a few highlights about each, because **the main thing that is important for you to understand is the clear causal relationship of retained primitive reflexes to the onset of autism.**



The month designations at the top of each slide are when reflex integration should typically happen.

1 – 2 MONTHS AFTER BIRTH

Integration of The Crossed Extensor Reflex

Activation of this circuit is essential for neural development of lower motor pathways (muscle development and coordination of the legs) and **maturation of the brain stem and mid brain.**



Some effects of Non-Integration or Retention:

- Inefficient cross-motor patterns of arms and legs
- Delay in hemispheric differentiation and development of corpus callosum.
- Delay in development and integration of Babinski and Bauer reflexes and in baby's ability to walk.

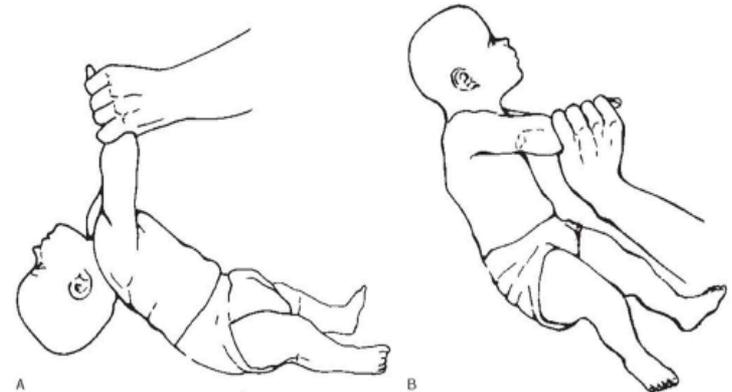
1 – 2 MONTHS AFTER BIRTH

Integration of Hands Pulling Reflex

Notice the difference in the two pictures below. In the first the baby's head, core and arm are loose and floppy when he is being pulled up, while in the second, the baby exhibits flexing at the elbow, head righting and core control. The former looseness is common in baby's who turn out to have autism.

Some effects of Non-Integration:

- Delays in ability to sit up, crawl and other gross motor skills going forward.
- Poor head-eye and hand-eye coordination; confusion in perception and visual focusing



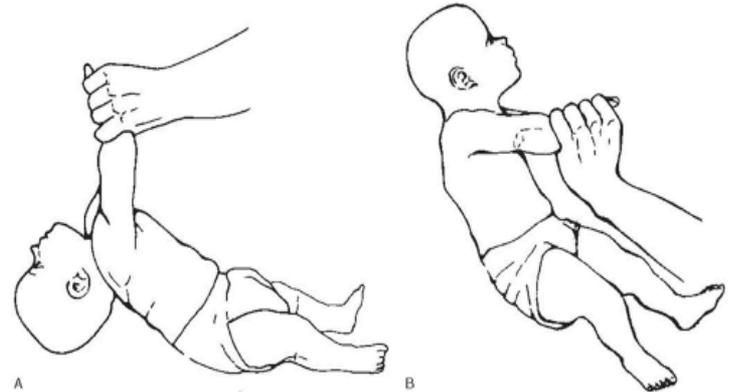
2 MONTHS AFTER BIRTH

Integration of Hands Pulling Reflex

Notice the difference in the two pictures below. In the first the baby's head, core and arm are loose and floppy when he is being pulled up, while in the second, the baby exhibits flexing at the elbow, head righting and core control. The former looseness is common in baby's who turn out to have autism.

Some effects of Non-Integration:

- Delays in ability to sit up, crawl and other gross motor skills going forward.
- Poor head-eye and hand-eye coordination; confusion in perception and visual focusing



2 MONTHS AFTER BIRTH

Integration of Hands Supporting Reflex

This reflex influences the development of vision and perspective, hand-eye coordination, gross motor development and spatial orientation – not just of the body, but also as it relates to boundaries and personal space. It also helps the brain develop movements that “mirror” each other, such as when a baby sees his mother hand clapping, he does it too (essentially “mirroring” the action).

Some effects of Non-Integration:

- Tendency to keep to self; avoid interaction with others



2 MONTHS AFTER BIRTH

Integration of Stepping Reflex

This reflex results in the ability to differentiate leg movements. It **affects neural links from the core to the periphery of the body.**

Some effects of Non-Integration:

- Disrupted development of lower motor neurons causing delayed maturation of upper body neurons and poor motor programming and body control.
- Lack of communication between left/right hemispheres, causing further disruption to the emerging corpus callosum.
- Delays in the development of the vestibular system and of 3-D or distance vision



3-4 MONTHS AFTER BIRTH

Integration of Moro Reflex

This reflex allows an infant to breathe and extend its body at birth after 9 months of being in the womb.

Some effects of Non-Integration:

- Lack of self organization and self regulation, often resulting in hyperactivity or hypersensitivity
- Irrational, maladaptive behavior patterns – excessive anxiety, timidity
- Poor coordination between thought and movement
- Poor balance and equilibrium causing in motor development
- Hypersensitivity to vestibular and vestibular auditory stimulation
- Disintegration of sensory and motor systems in stressful situations

Poor balance, delay in motor development

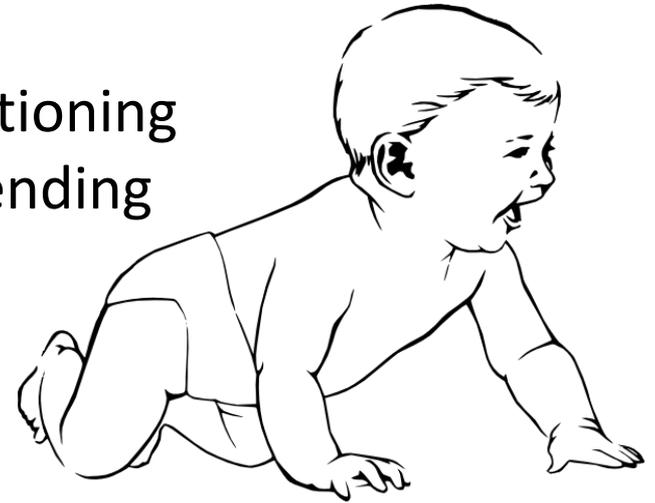
- Lack of communication between left/right hemispheres, causing further disruption to the emerging corpus callosum.



3-4 MONTHS AFTER BIRTH

Bauer Crawling Reflex Reflex

This reflex is important for the proper functioning and myelination of the pyramidal (or descending motor neural) tract.



Some effects of Non-Integration:

- Delayed gross and fine motor development
- Delay of cross lateral movement, hemispheric specialization and development of the corpus callosum
- Delay of spoken language and language comprehension
- Delay or problem with binocular vision and binaural hearing
- Lack of integration of thought and movement

4 MONTHS AFTER BIRTH

Integration of Babkin Palmonmental Reflex

This reflex is fundamental for the whole sensory motor complex. It supports a newborn's exploration of his body's mid-line and sides and affects his overall sense of himself in space and time.

This reflex also influences the micro-movements of the skull bones and facial muscles involved with speech and emotional expression. If it is retained, smiling and speaking appropriately, would be next to impossible, regardless of how much one might want to do so.



4 MONTHS AFTER BIRTH

Integration of Babkin Palmonmental Reflex



Some effects of Non-Integration:

- Poor muscle tone regulation in the upper body and oral facial system
- Delay or problems in development of articulation, speech and language – stuttering, tics and other speech difficulties. Can be exaggerated with increased anxiety resulting in hair pulling and other obsessions or addictions.
- Biting, chewing, bringing objects to mouth – craving oral stimulation
- Difficulty in reading and interpreting, as well as making, facial expressions
- Poor differentiation of auditory and visual stimulation in space

4-6 MONTHS AFTER BIRTH

Integration of Spinal Perez Reflex

Basis for whole body coordination and development of neural links between the limbs and brain through the core of the body.

Some effects of Non-Integration:

- Delayed development of the brain on 3 levels (brain stem to mid-brain to frontal lobes)
- Lack of proper visual and auditory perception (narrow visual field, “tunnel vision”)
- Hypersensitivity to to auditory and tactile stimuli (discomfort in tight fitting clothing or seat belts)
- Poor impulse control and emotional volatility
- Bedwetting, incontinence, IBS



6-7 MONTHS AFTER BIRTH

Integration of Asymmetrical Tonic Neck Reflex (ATNR)

Essential for integrated auditory and visual processing, for proper language development, for final differentiation and specialization of executive brain functions and integration of vestibular system.

Some effects of Non-Integration:

- Lack of coordination in cross lateral movement (difficulty throwing and catching)
- Poor hand-eye coordination
- Auditory and visual hypersensitivity
- Poor focused and peripheral vision; learning issues



6-9 MONTHS AFTER BIRTH

Integration of Spinal Galant Reflex (ATNR)

Influences the development of the spine, flexibility postural control and flexibility.

Some effects of Non-Integration:

- Poor gross motor coordination, motor programming and body control
- Deficits in auditory processing – perception of low/high frequencies
- Problems with visual focusing – convergence and divergence
- Tactile hyper-sensitivity/defensiveness – discomfort with tight fitting clothing
- Bedwetting, incontinence, IBS



7-10 MONTHS AFTER BIRTH

Integration of Trunk Extension Reflex

If this reflex is delayed or retained, it blocks or inhibits the links between the brain stem and the upper brain. This results in the brain stem and cerebellum having to work extra hard, putting a person into survival mode and limiting

Some effects of Non-Integration:

- Tendency to over focus on details, inadequate generalizing
- Lack of imagination and abstract thinking
- Narrow range of perception, interests and engagement
- Toe walking and tendency to bend forward



9-11 MONTHS AFTER BIRTH

Integration of Symmetrical Tonic Neck Reflex (STNR)

This reflex develops the inhibition mechanism for quieting the body in order to activate visual and auditory perception.

It also plays an important part in the final development of binocular vision and binaural hearing.

The development of visual skills helps to transform reflex motor patterns into conscious, differentiated controlled intentional movements.



9-11 MONTHS AFTER BIRTH

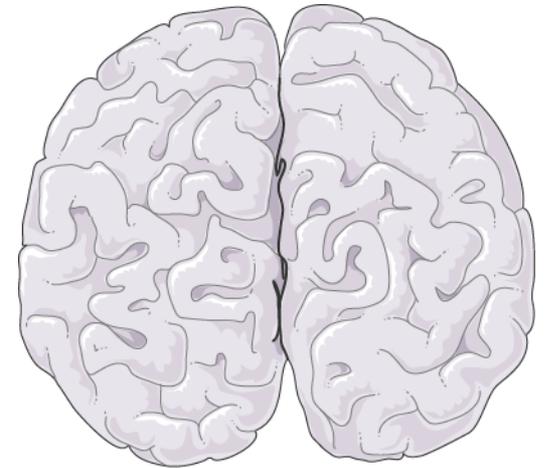
Symmetrical Tonic Neck Reflex (continued)

This reflex is also responsible for motor coordination between the vestibular and proprioceptive systems and vision.

It also helps finalize the synchronization and integration of the two brain hemispheres.

Some effects of Non-Integration:

- Poor balance and equilibrium
- Poor binocular vision, depth perception and binaural hearing
- Impulsivity, hyperactivity, ADD/ADHD



PRIMITIVE REFLEXES	OVER-LAPPING IMPACTS	IMPACTS ON NEWBORN IN FIRST 4 MONTHS OF LIFE IF THEY ARE NOT INTEGRATED INTO THE BRAIN & CNS
Crossed Extensor (If this is retained, Bauer Crawling will be retained)	A B C	A. Impacts hemispheric differentiation and the development of the corpus callosum
Hands Pulling Reflex	B C D E	B. Impacts motor development – upper and lower gross and fine movements – hand-eye coordination
Hands Supporting Reflex	B C D E F	C. Impacts combining movement with senses – tendency toward hypo- or hyper-sensitivity, impulsivity
Stepping Reflex	A B C D	D. Impacts the development of the vestibular system – Poor balance and equilibrium, binaural hearing
Moro Reflex	A B C D	E. Impacts the development of the visual system – distance, depth, 3-D, binocular, scanning
Bauer Crawling (If this is retained, ATNR & STNR will be retained)	A B C D E	F. Impacts the development of socialization – personal space, mirror movements; language comprehension

PRIMITIVE REFLEXES	OVER-LAPPING IMPACTS	IMPACTS ON NEWBORN IN FIRST 4 – 12 MONTHS OF LIFE IF THEY ARE NOT INTEGRATED INTO THE BRAIN & CNS
Babkin Palmonmental Reflex – Foundation for Sensory Motor Complex	A B D E	A. Impacts communication between lower and higher brain, between the right and left hemispheres and the formation of the corpus callosum.
Spinal Perez Reflex (Influences functioning of STNR reflex)	A B C D	B. Impacts motor development – upper and lower gross and fine movements – hand-eye coordination
Asymmetrical Tonic Neck Reflex (ATNR)	A B C D E	C. Impacts combining movement with senses – tendency toward hypo- or hyper-sensitivity, impulsivity
Spinal Galant Reflex	B C D E	D. Impacts the development of the vestibular and proprioceptive systems – awareness of body in space
Symmetrical Tonic Neck Reflex (STNR)	A B C D E	E. Impacts the development of the visual and auditory systems – distance, depth, 3-D, binocular, binaural
Trunk Extension Reflex	A B C D	F. Impacts the development of language – movements of facial muscles that support speech and expression