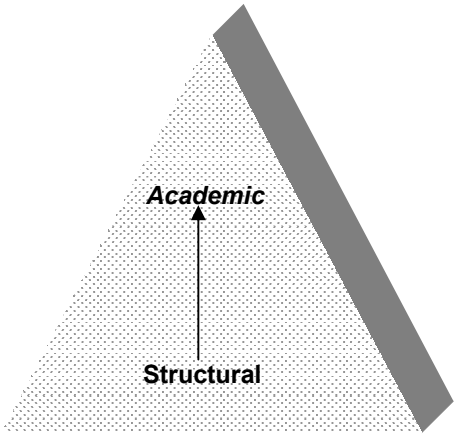
Retained "Neonatal" or "Primitive" Reflexes



Let's imagine that the learning process is a pyramid of building blocks. Blocks at the bottom of the pyramid are laid down first and have to be put together properly for the pyramid to grow into a strong, solid structure.

So, at the very base of the pyramid we have structural building blocks. These include eyesight, hearing and musculoskeletal function. At the next level are functional building blocks. These are things like visual processing speed, auditory processing speed, eyes working together, primitive reflex integration (more on this later). Further up again are developmental building blocks like eye-hand coordination, sequencing skills, and spatial awareness. At the very top are the academic blocks that we learn as part of our normal schooling process.

Primitive Reflex integration

Primitive or neonatal reflexes develop during uterine life because the higher centres of our nervous system are not fully developed. They are needed for survival and development in the womb and early months of life. They should be fully present at birth and are gradually taken over by higher centres in the brain during the first 6 to 12 months of life. Sometimes these reflexes are retained and not properly integrated. If they are retained beyond the normal age of integration, they can disturb some or all of the higher centre functions. This will affect the building blocks in the learning pyramid, showing up as learning and behaviour problems.

From research and experience it appears that trauma of some kind somewhere between conception and the early months of life cause reflexes to be retained. The big factor appears to be birth trauma including caesarian section and any form of induced delivery. The birth process creates a great deal of stress on the skull especially around the area covering the brainstem. The nerve centres controlling neonatal reflexes are in the brainstem so it is possible that trauma to that area has a direct influence on how the reflexes are finally integrated.

Neonatal Reflexes include the:

❖ fear paralysis reflex	❖ asymmetrical tonic neck reflex (ATNR)
❖ moro reflex	❖ tonic labyrinthine reflex (TLR)
❖ rooting reflex	❖ spinal galant reflex
❖ juvenile suck reflex	❖ palmar reflex
	❖ plantar reflex

These are only some of the reflexes that might be involved in specific learning difficulties and behavioural problems. More than two reflexes must be present before a diagnosis of "Neuro-Developmental Delay" is considered by pediatricians and psychologists.

The process for integrating neonatal reflexes must start with structural corrections. You could think of this as being the same as fixing the “hardware” of a computer. It makes sure the base of the pyramid is strong. The “software” problems will also need to be fixed. These are the blocks further up the pyramid and are the responsibility of one or more of a team of experts which includes behavioural optometrists, occupational therapists, neurodevelopmental assessors, speech therapists, psychologists, educationalists, etc.

About some of the reflexes

Fear Paralysis Reflex

The Fear Paralysis Reflex is the key to all other reflexes. It is the first reflex to manifest. Indeed, the Fear Paralysis reflex is intended to develop, become integrated, and "inhibit," or fall away, all in utero, long before birth.

If the Fear Paralysis Reflex (FPR) does not follow the intended route of development, the child's (or adult's) system is left locked in a fear state that permeates all waking and sleep activity. If Fear Paralysis is still active all situations are seen through a filter of fear.

A partial list of behaviours that may manifest due to lack of resolution of Fear Paralysis Reflex is as follows:

- Low tolerance to stress
- Anxiety seemingly unrelated to reality
- Hypersensitivity to touch, sound, specific frequencies of sound, changes in visual field.
- Dislike of change or surprise/poor adaptability
- Fatigue, Holding breath
- Fear of social embarrassment / school
- Insecure / Lack of trust in oneself
- Overly clingy or may be unable to accept or demonstrate affection easily
- Compulsive traits / OCD
- Negativism, defeatist attitude
- Won't try new activities, especially where comparison occurs or excellence is expected
- Temper tantrums
- Immediate motor paralysis under stress - can't think and move at the same time

The Moro Reflex

The Moro reflex is a normal reflex for an infant when he or she is startled or feels like they are falling. The infant will have a "startled" look and the arms will fling out sideways with the palms up and the thumbs flexed.

The Moro reflex is an involuntary reaction to threat. It acts as the earliest form of “fight or flight” response and may be triggered occasionally in later life in situations of extreme danger. It should be inhibited in the first 2-4 months of life to be replaced by an adult "startle" reflex.

If the Moro reflex is retained beyond 3 to 6 months of age, it becomes an automatic and therefore uncontrollable overreaction and may result in:

- Hypersensitivity to sudden noise, light or movement and so may withdraw from situations or have difficulty with new or stimulating experiences.
- Poor impulse control
- Stimulus bound effect (cannot ignore peripheral stimuli to focus attention on one thing – has to pay attention to everything)
- Anxiety (particularly anticipation anxiety)
- Emotional and social immaturity
- Sensitivity to certain foods or food additives (which in turn affect behaviour and concentration)
- Allergy and chronic illness may be experienced by the adult, since this type of response takes a huge toll on the body’s immune system

When an inappropriate Moro reflex begins to integrate after therapy, there may be changes in emotional state or behaviour. This is common and a good sign that the Moro is integrating. Emotional ups and downs are common as the nervous system and hormonal system readjust. With a retained Moro, the child may never have fully experienced the discovery phase of development (the terrible twos). As the Moro integrates, the child, teenager or adult has the opportunity to pass through this developmental phase. “Terrible twos” may not seem appropriate for later years, but it is important that this phase of development runs its course.

Asymmetrical Tonic Neck Reflex

The ATNR should be fully present at birth and appears to assist the baby's active participation in the birthing process. The reflex continues after birth and plays an important part in the development of hand-eye coordination.

The ATNR is activated as a result of turning the head to one side. As the head is turned, the arm and leg on the same side will extend while the opposite limbs bend. The ATNR should be integrated at about 6 months of age.

If the ATNR remains active in a child at a later age, it can affect:

- Hand-eye co-ordination
- Ability to cross the vertical midline (eg, a right-handed child may find it difficult to write on the left side of the page)
- Discrepancy between oral and written performance
- Development of lateral eye movements such as visual tracking (necessary for reading, writing)
- Control of automatic balance
- Bilateral integration (differentiated and integrated use of the two sides of the body)
- Establishment of a dominant hand, eye or ear may be difficult
- Visual tracking and judgment of distance may be affected
- Poor at sport

Tonic Labyrinthine Reflex

The TLR is elicited by bending the neck forwards or tilting it backwards. It involves the sense of balance and position in space. When the neck is tilted backward the limbs straighten. When the neck is tilted forwards the limbs bend.

The reflex should be fully developed in both positions from birth and has done its job by the end of the first year of life.

Inhibition of the TLR is a gradual process involving the maturation of other systems. It should be completed by three and a half years of age. If it persists beyond this time, it is sometimes associated with:

- Postural problems, specifically hyper- or hypo-tonus (muscle tone)
- Tendency to walk on the toes
- Poor balance
- Motion sickness
- Orientation and spatial difficulties
- Eye problems
- Visual-perceptual problems
- Dislike of Physical Education (PE)

Correction appears to assist concentration and reduce fatigue while reading or when working or studying at a desk.

Spinal Galant Reflex

The Spinal Galant reflex appears to take an active role in the birth process with movements of the hip helping the baby work its way down the birth canal. If the Spinal Galant reflex is retained beyond normal time of integration (3 and 9 months of life) it may be elicited at any time by light pressure in the low back region.

If it persists it can affect:

- Ability to sit still (the "ants in the pants" child who wriggles, squirms and constantly changes body position)
- Attention and concentration
- Co-ordination
- Poor bladder control (bedwetting)
- Posture (can contribute to the development of scoliosis (curvature) of the spine)

In the classroom, the child's belt or waistband or leaning against the back of a chair may activate the reflex. The constant irritation affects concentration and short term memory (as well as getting them into trouble).