

# The Importance of Integrating Reflexes

by Sonia Story

*Integrating reflexes is key for the ability to learn easily, manage our emotions and impulses, and meet life's challenges with greater ease. Incomplete integration of childhood reflexes can be mild to severe, and contributes to anxiety; depression; ADD; ADHD; autism; learning disorders; developmental delay; sensory-integration disorders; vision and hearing problems; behavioral challenges; extreme shyness; lack of confidence; addiction; inefficient, effortful work and constantly feeling overwhelmed.*

*Neurodevelopmental Movement helps children and adults complete the reflexes and transform challenges into strengths.*

## What is a reflex?

A reflex is an automatic, instinctual movement that assists in development, growth and survival. Blinking is a reflex. Many reflexes are active throughout our lives. Other reflexes—called “primitive reflexes”—surface in the womb and infancy and are designed to become inactive after the toddler stage. Two familiar primitive reflexes are sucking and grasping with the hand. Ideally, primitive reflexes merge into more sophisticated movements, and become integrated. An integrated childhood reflex is no longer active.

## What causes unintegrated reflexes?

Unintegrated, active childhood reflexes can be caused by:

- ▶ Lack of enough proper movement in early childhood: Plastic carriers, propping devices, playpens, walkers, swings, jumpers and car seats all restrict movements required for brain development. TV and computer use also hamper opportunities for movement.
- ▶ Stress of the mother during pregnancy, breech birth, birth trauma, Caesarean or exposure to sonograms.
- ▶ Illness, trauma, injury, chronic stress.
- ▶ Environmental toxins and plastics; complications with vaccinations; exposure to electronic pollution.

Even reflexes that are completely integrated may become reactivated later by trauma, injury, toxins and stress.

## Why are reflexes important?

From the womb on, the childhood reflex movements literally **grow** the brain. Repetitive, automatic reflex movements are essential for the development of balance, mobility, vision, hearing, speaking, learning and communicating.

- ▶ **Reflex movements are the first foundations of the nervous system.** Like a block tower, all further development depends on the readiness of the foundation.
- ▶ **Reflexes originate in the brain stem, or survival brain.** When reflexes remain active, the survival brain is constantly stimulated. In this survival mode, there is less ability to access the prefrontal lobes, where we think, create, communicate and make beneficial decisions. *In other words, we are more likely to react instead of controlling our impulses.*
- ▶ **Unintegrated reflexes trigger the “fight or flight” response, creating chronic stress.** Even when there is no logical reason for stress, we can feel stressed because our physiology is constantly reacting as if threatened. Stress becomes a habit, often below the level of our awareness.

▶ **When reflexes are active, body parts cannot easily move independently.** A movement of the head causes an automatic movement in the limbs, hands or feet. Extra limb movements happen below the surface level and cause confusion in the neuro-sensory-motor system. This confusion creates difficulties with growth, coordination, reading, writing, speaking and thinking.

A child who fidgets in his chair and cannot focus is more than likely suffering from active reflexes. Once reflexes are integrated, head and limb muscle groups can move independently, and the ability to sit attentively without fidgeting comes easily.

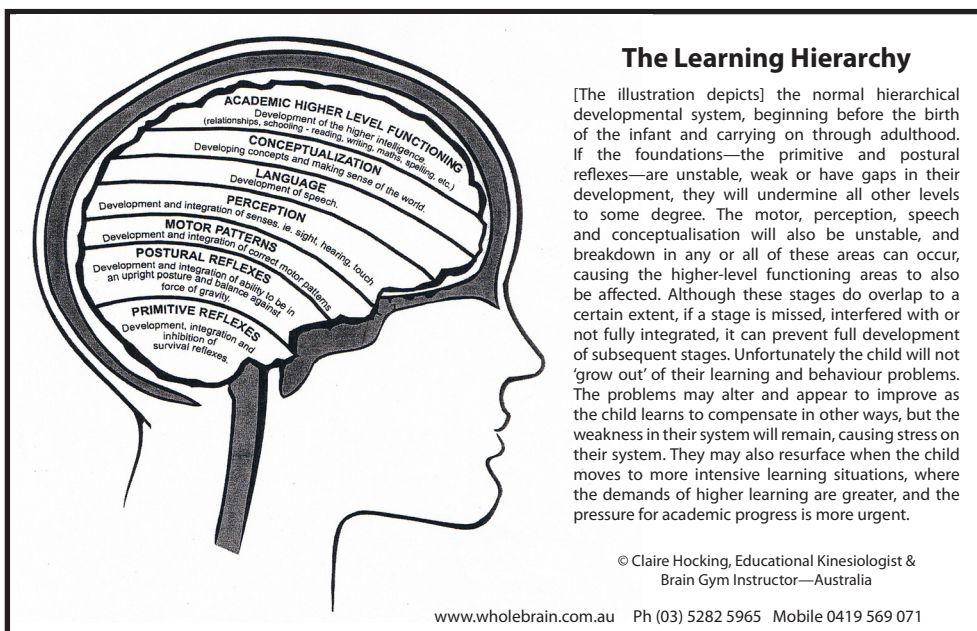
▶ **Active reflexes cause aches and muscle tension, weak muscle tone, fatigue and the need for great amounts of effort to complete tasks.** We unconsciously learn to compensate for and suppress active reflexes, which can cause considerable tension and drain energy. Skills that should be automatic (like reading and writing) can be done only with continuous conscious effort.

## Movement and Play for Integration

At any age, we can integrate the reflexes and rebuild the foundation of our nervous system through Neurodevelopmental Movement. We start by assessing which reflexes need integration. Then we do a series of age-appropriate activities specifically designed for each reflex. Neurodevelopmental Movement is highly effective because it taps into the same system we are designed with at birth for reflex integration and brain development. We add play, because play is fun, healing and transformative.

Neurodevelopmental Movement creates quantum shifts and positive changes. Life and learning become much easier once the childhood reflexes are integrated.

**Neurodevelopmental Movement is beneficial for all ages and skill levels.** It is effective for reflex integration, whole-brain learning, optimizing skills, reducing stress, eliminating blocks and opening the heart. Families especially benefit from the harmony and positive changes that grow from doing movement together.



# KEY CHILDHOOD REFLEXES *and Consequences of Unintegration*

**Fear Paralysis Reflex** FPR emerges in the 5th to 8th week of womb life, and ideally is integrated before birth. FPR is most likely a protective mechanism in the face of danger and may help us learn to cope with stress. FPR is a “freezing” reaction similar to a deer caught in the headlights.

There is tightening of the jaw and eye muscles; limb muscles contract and pull in toward the core. The breath is held, and there may be a significant drop in heart rate. Those who study reflexes do not always agree on what triggers FPR, but in general we can think of the FPR as a response to a perceived threat. If the FPR is not fully integrated at birth, it can cause lifelong challenges related to fear. There is an underlying anxiety preventing an individual from moving forward toward meaningful goals. When the Fear Paralysis Reflex is unintegrated it interferes with the integration of successive reflexes, especially the Moro Reflex.

## POSSIBLE LONG-TERM EFFECTS OF AN ACTIVE FEAR PARALYSIS REFLEX

- Shallow, difficult breathing
- Underlying anxiety or negativity
- Insecurity, low self-esteem
- Depression, isolation, withdrawal
- Constantly feeling overwhelmed
- Extreme shyness, fear in groups
- Excessive fear of embarrassment
- Fear of separation from a loved one, clinging
- Sleep and eating disorders
- Feeling stuck
- Elective mutism
- Low tolerance to stress
- Withdrawal from touch
- Aggressive or controlling behavior, craving attention
- Extreme fear of failure, perfectionism
- Phobias

**Moro Reflex** The Moro Reflex, sometimes called the infant-startle reflex, is an **automatic reaction to a sudden change in sensory stimuli**: sudden bright light, loud noise, touch, change in body position, temperature, etc. can trigger the Moro Reflex.

The Moro Reflex creates instant arousal of the baby's survival systems. In essence, the baby responds as if reacting to a threat. The Moro Reflex trains the baby's nervous system in developing the “fight or flight” survival response. It is also the baby's instinctual response to summon a caregiver.

These physiological responses occur:

- ▶ Release of stress hormones adrenaline and cortisol;
- ▶ Increased breathing rate; shallow breathing;
- ▶ Increased heart rate and blood pressure.

An unintegrated Moro Reflex is often accompanied by hypersensitivity to incoming stimulus and health challenges such as allergies and asthma.

Ideally, the Moro Reflex emerges in the womb at 9–12 weeks gestation and is integrated by 4 months of age. Moro integration is complete when the baby learns a more mature startle reflex, sometimes called Strauss Reflex: in response to sudden change or perceived danger, the baby's shoulders raise and the baby seeks to find the source of the stimulus. If the baby has the means to cope with the event, he will either pay attention to it, or ignore it. This ignoring response is the basis of a more mature nervous system skill to filter out unwanted stimuli and selectively pay attention.

## POSSIBLE LONG-TERM EFFECTS OF AN ACTIVE MORO REFLEX

- Sleep disturbances, difficulty settling to sleep
- Easily triggered anger or emotional outbursts
- Shyness
- Poor balance and coordination
- Poor stamina
- Motion sickness
- Poor digestion, tendency towards hypoglycemia
- Weak immune system, asthma, allergies and infections
- Hypersensitivity to light, movement, sound, touch and smell
- Difficulties with vision, reading or writing
- Difficulty adapting to change
- Cycles of hyperactivity and extreme fatigue
- Easily distracted, difficulty filtering out extraneous stimuli
- Difficulty catching a ball
- Difficulty with visual perception
- Easily fatigued, irritable under fluorescent lighting

**Tonic Labyrinthine Reflex** The TLR has two forms: forward and backward. **In the forward TLR, as the head bends forward, the whole body, arms, legs and torso curl inward in the characteristic fetal position. In the backward TLR, as the head is bent backward, the whole body, arms, legs and torso straighten and extend.**

The TLR provides the baby with a means of learning about gravity and mastering neck and head control outside the womb. This reflex gives the baby opportunities to practice balance, increase muscle tone and develop the proprioceptive and vestibular senses. Eventually the TLR interacts with other reflexes and bodily processes to help develop coordination, posture and correct head alignment from infancy through toddlerhood. It is critical for the TLR to do its “job” because correct alignment of the head with the rest of the body is necessary for balance, visual tracking, auditory processing and organized muscle tone, all of which are vital to the ability to focus, pay attention and learn.

## POSSIBLE LONG-TERM EFFECTS OF AN ACTIVE TONIC LABYRINTHINE REFLEX

- Balance and coordination problems
- Shrunken posture
- Easily fatigued
- Muscle tone too weak or too tight
- Difficulty judging distance, depth, space and speed
- Fear of heights
- ‘W’ leg position when floor sitting
- Motion sickness
- Visual, speech, auditory difficulties
- Tendency to be cross-eyed
- Stiff, jerky movement
- Toe walking
- Difficulty walking up and down stairs
- Difficulty following directional or movement instructions

**Asymmetrical Tonic Neck Reflex** The ATNR **links head and neck movement to one-sided movement**. When the infant turns her head to one side, the arm and leg of that side automatically extend. In utero, the ATNR provides stimulation for developing muscle tone and the vestibular system. It assists in the birth process, providing the means for the baby to ‘corkscrew’ down the birth passage. The ATNR also provides training in hand-eye coordination. By 6 months of age, this reflex should evolve into more complex movement patterns. If the ATNR remains active, it is one of the most significant causes of inability to function well in school.

## POSSIBLE LONG-TERM EFFECTS OF AN ACTIVE ASYMMETRICAL TONIC NECK REFLEX

- Dyslexia
- Reading, listening, handwriting and spelling difficulties
- Poor sense of direction
- Confused handedness
- Focus and balance difficulties

**Symmetrical Tonic Neck Reflex** The STNR helps the baby **lift and control the head for far-distance focusing**. The STNR also prepares the baby for creeping (crawling), using automatic movements for raising up on all fours. At this stage in development, movement of the head is automatically linked to movement of the arms and legs. If the STNR remains active, it is another main cause of inability to function well in school. This is because up-and-down head movements cause underlying arm and leg movements, resulting in neuro-motor ‘static’ that makes concentration and learning more difficult.

## POSSIBLE LONG-TERM EFFECTS OF AN ACTIVE SYMMETRICAL TONIC NECK REFLEX

- Squirming or fidgeting; poor posture, slouching
- Headaches from muscle tension
- Difficulty writing and reading
- Apelike walking
- Vision disorders
- Trouble staying on task
- Clumsy, messy eating

**Spinal Galant Reflex** The Spinal Galant Reflex is a **rotation of the hip that occurs when the back is touched on either side of the spine**. The Spinal Galant Reflex most likely works with the ATNR to aid in the passage down the birth canal. It is also thought to help babies balance and coordinate the body for belly-crawling and creeping. It is likely connected to bladder function, because a high percentage of children who are bedwetting past age 5 have an active Spinal Galant Reflex.

## POSSIBLE LONG-TERM EFFECTS OF AN ACTIVE SPINAL GALANT REFLEX

- Bedwetting
- Hip rotation to one side
- Poor posture
- Difficulty sitting still
- Scoliosis
- Fatigue
- Poor concentration
- Poor short-term memory
- Irritable Bowel Syndrome

**Oral, Hand and Foot Reflexes** Some of the Oral, Hand and Foot Reflexes are linked in infancy. We often see babies kneading their hands while they suckle. When these reflexes remain active, we may see children and adults moving the mouth or tongue while writing or drawing. Active Foot Reflexes interfere with our ability to walk, think and speak in a flowing rhythm.

## POSSIBLE LONG-TERM EFFECTS OF ACTIVE ORAL, GRASPING AND FOOT REFLEXES

- Speech delay or difficulties
- Difficulty in social situations
- Manual dexterity challenges
- Handwriting difficulties
- Loose, easily sprained ankles
- Flatfootedness or walking on sides of feet
- Difficulty expressing written ideas
- Swallowing problems
- Drooling
- Poor pencil grip
- TMJ Syndrome
- Toe-walking
- Hip rotation