

Reflexes Explained

Each individual reflex explained

Retained reflexes may lead to any of the symptoms listed below, however this information is merely a guide for educational purposes only. It should not be used for diagnosis. Please consult a primary healthcare professional for full evaluation of your history, signs and symptoms.

Fear Paralysis Reflex

If this reflex is retained it can be characterised by withdrawal, reticence at being involved in anything new, and fear of different circumstances. The withdrawal is not always quiet -it may be a screaming fear.

Retained Fear Paralysis Reflex may lead to any of the symptoms listed below:

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

Moro Reflex

The newborn's higher centres have not yet developed enough to make a rational decision about whether a circumstance is threatening or not. It is protected by an involuntary "one reflex for all occasions", one set of physical and hormonal events which cover for most eventualities.

The reflex is set off by excessive information in any of the baby's senses. For example, a loud noise, bright light, sudden rough touch, sudden stimulation of the balance mechanism such as dropping or tilting.

It is the earliest form of adrenal "fight or flight response". This response prepares for fighting or running and if not integrated leads to hyperactivity.

As the adrenal glands are a large part of our immune system; constantly being turned on can lead to adrenal fatigue and therefore asthma, allergies, and chronic illness.

Retained Moro Reflex may lead to:

- Hypersensitivity to sudden noise, light or movement
- Difficulty with new or stimulating experiences
- Impulsive behaviour
- Distractibility– has to pay attention to everything
- Anxiety, particularly anticipation anxiety
- Emotional and social immaturity
- Sensitivity to foods or food additives
- Inappropriate behaviour
- Hyperactivity
- Adrenal fatigue, leading to allergy, asthma or chronic illness

Juvenile Suck Reflex

Retained Juvenile Suck Reflex may lead to:

- Speech and articulation problems
- Difficulty swallowing and chewing
- Difficulty speaking and doing manual tasks at the same time
- Involuntary tongue or mouth movements when writing or drawing
- Poor manual dexterity, especially when chewing or speaking
- Class II dental occlusion requiring dental intervention

Rooting Reflex

Light touch on the cheek, or stimulation of the edge of the mouth will cause a baby to turn its head toward the side of stimulation and open its mouth with an extended tongue in preparation for suckling. It helps the baby put the nipple in its mouth.

Retained Rooting Reflex may lead to:

- Hypersensitivity around lips and mouth
- Tongue sits too forward in the mouth
- Dribbling
- Speech problems
- Poor manual dexterity when speaking
- Hormonal imbalances

Palmomental and Plantomental Reflexes

This reflex is very similar to the Babkin response and some sources claim the Palmomental reflex is synonymous with the Babkin response. This reflex is where the hands move while the baby is suckling. This relationship also creates contraction of muscles at the mouth when a portion of the hand is stimulated. This reflex should integrate by the third month of life.

Retained Palmomental and Plantomental Reflex may lead to:

- A child's jaw opening and closing when using scissors
- Children biting others
- Difficulty learning to use cutlery
- Tight pencil grip
- Tension in facial muscles affecting facial expressions, which can influence stuttering
- Clenching the jaw whilst clenching the steering wheel

Palmar Reflex

Normal neonates have an active Palmar, or Grasp, reflex. When the palm of the hand is touched, the three small fingers flex toward the palm to grasp. This reflex must integrate for normal prehension (holding between the thumb and fingers).

If retained, these children often have poor handwriting, but more importantly, a poor ability to process their ideas and then write them down. That is, copying words is easy but the task of spelling words is more difficult and messy.

Independent movement of the fingers will tend to weaken other muscles. Thus the child may slump during tasks like playing piano or making models.

In the adult, the most commonly heard complaint is "my back hurts when I sit in front of my computer" (typing requires independent finger movement).

Palmar reflex retention may lead to:

- Poor fine motor skills and manual dexterity
- Inappropriate pencil grip and poor handwriting
- Poor posture when playing piano or working with the hands
- Difficulty processing ideas on to paper
- Poor posture and/or back pain when working at a desk or computer

Plantar Reflex

The Plantar reflex is similar to the Palmar reflex in that stroking or pressing on the underside of the foot causes the foot to flex and the toes to curl, as if to grasp what touched the foot.

Plantar reflex retention may lead to:

- Difficulty learning to walk
- Running awkwardly
- Poor balance
- In children the toes may curl under when putting on shoes, leading to difficulty getting the foot into the shoe
- Problems with sports requiring balance and coordination while running
- Low back pain while walking and/or standing
- Shin soreness
- Recurrent ankle twisting
- Difficulty walking in the dark (vision is not able to assist balance).

Asymmetrical Tonic Neck Reflex

If a newborn's head is turned to one side, the arm and leg on the side to which the head is turned straighten while the opposite arm and leg pull in. It should be fully present at birth and appears to assist the baby's active participation in the birthing process.

In the neonatal display of the ATNR, the hand moves in conjunction with the head. This connection between touch and vision helps to establish distance perception and hand eye co-ordination. If retained, the hand and eye want to move together, making it difficult to look up at a blackboard and write. When walking, turning the head results in the straightening of the arm and leg on the same side, upsetting balance and normal walking pattern.

Looking at the hand tends to weaken other muscles. This affects ability to catch a ball and other sporting activities.

In early months, ATNR locks vision on to anything which catches the attention. If inappropriately retained, the child (or adult) is easily distracted by anything that attracts the attention.

ATNR retention may lead to:

- Hand-eye co-ordination difficulty
- Poor handwriting
- Awkward pencil grip
- Difficulty copying from a blackboard
- Missing parts of a line when reading
- Difficulty catching a ball
- Unable to cross the vertical midline (for example, a right-handed child may find it difficult to write on the left side of the page)
- Discrepancy between oral and written performance
- Disturb the development of visual tracking (necessary for reading and writing)
- Balance may be disturbed
- Bilateral integration (integrated use of the two sides of the body) may be poor.
- Establishment of a dominant hand, eye or ear may be difficult
- Judgment of distance may be affected
- Poor at sports
- In adults there can be chronic shoulder and/or neck problems

Tonic Labyrinthine Reflex

TLR involves the vestibular system (sense of balance and position in space) and how it interacts with other senses and therefore also balance.

The child who still has a retained TLR when starting to walk cannot acquire true standing and walking security and may experience difficulty in judging space, distance, depth and speed.

There are three separate corrections related to TLR. One helps concentration when working over a desk and helps to stop slumping over the desk. Another helps the body to coordinate movement, allowing it to move more efficiently. It is rare to see a patient fail to beat their personal best after this correction has been performed.

Retained Tonic Labyrinthine Reflex can be associated with:

- A “floppy” child
- Poor balance
- Motion sickness
- Orientation and spatial difficulties

- Visual problems
- Difficulty judging space, distance, depth and speed
- Poor concentration
- Fatigue while reading or when working or studying at a desk
- Bad posture when working over a desk
- Difficulty coordinating movement
- Sports performance below capability

Stepping Reflex & Heel Reflex

Our bodies alter our postural muscles depending if we are standing with our weight over our toes or our heels. These two reflexes help to remove tension from the muscles of the lower leg to allow for increased ankle movement, and establish ideal posture integrated with our vision.

A reasonable amount of the information we take in from our environment is through vision, so where we hold our head (tipping too far forward or back) has a tremendous influence on our posture. These two reflexes are aimed at balancing the connection between the input from our eyes and the feedback from our feet. Symptoms of retention are listed below. However, interestingly, many people retain both.

Stepping Reflex retention may lead to:

- Toe walking – ‘running like an ostrich’
- Tight calf muscles
- Poor balance and muscle control
- Feet and ankle problems with pain and dysfunction
- Recurring hamstring injuries and mid-low back strains
- Visual problems due to an altered perception of the horizon – head tilts forward and eyes look upward

Heel Reflex retention may lead to:

- Heavy heel walking – ‘walking like a baby elephant’
- Heel pain
- Achilles Tendonitis
- Shin Splints
- Poor core stability
- Balance problems
- Visual problems due to an altered perception of the horizon – head tilts back and eyes look down

Symmetrical Tonic Neck Reflex – STNR

The STNR begins to display its pattern in normal development from 8 to 11 months of age and is a stepping-stone to crawling on the hands and knees. Malfunctioning STNR symptoms may include:

- A child crawling later than normal
- Poor hand-eye co-ordination
- An ape-like walking pattern
- Tendency to slump at a desk and/or poor posture due to a decrease in muscle tone, especially of the spinal muscles
- The eyes fatigue sooner than normal when focusing on near then far objects (copying from the blackboard may be slow and tedious, thus missing a lot of information gathered in class)
- Tendency to be long sighted
- Poor organisation and planning skills

Suprapubic Reflex

The Suprapubic Reflex is present at birth. The reflex is elicited when pressure is detected at the pubic bones and the body responds by tipping the pelvis forward, straightening both legs. If the skin over one pubis is firmly touched, one hip moves backward and the other moves forward.

The opposite pattern is seen in the upper body, enabling the baby to initiate commando crawling before the STNR activates to allow them to straighten their arms and legs to crawl on all fours.

Suprapubic Reflex retention may lead to:

- Bladder problems
- Pelvic floor problems
- Sugar handling imbalances
- Imbalances in the hormonal systems
- May affect walking pattern and posture
- Difficult or recurring ankle, hip or shoulder problems

Spinal Galant Reflex

In the newborn, stroking the low back on one side of the spine will result in side flexion of the lumbar (low back) spine away from that side, with raising of the hip on the same side. It appears to take an active role in the birth process, with movements of the hip helping the baby to work its way down the birth canal.

Stimulation down both sides of the spine simultaneously will activate a related reflex, which causes urination.

If the Spinal Galant reflex is retained it may be elicited at any time by light pressure on the low back region causing uncontrollable spinal movement.

The stimulation of bedsheets may activate the related urination reflex, causing bedwetting long after toilet training.

Spinal Galant Reflex retention may lead to:

- Ability to sit still (the “ants in the pants” child who wriggles, squirms and constantly changes body position)
- Attention and concentration problems
- Difficulty co-ordinating normal walking gait
- Bladder control (bedwetting is common)
- Can contribute to the development of scoliosis (curvature) of the spine
- Clumsiness while trying to manipulate objects
- May affect fluency and mobility in physical activities or sports

MORE DETAILS INTO EACH REFLEX

Fear Paralysis Reflex

The Fear Paralysis Reflex begins to function very early after conception and should normally be integrated before birth. It can be seen in the womb as movement of the head, neck and body in response to threat. It is sometimes classified as a *withdrawal* reflex rather than a *primitive* reflex. If this reflex is retained after birth, it can be characterised by withdrawal, reticence at being involved in anything new, fear of different circumstances, and is often described as the “scaredy cat” child who bears the brunt of teasing by normally adventurous children.

‘Withdrawal’ does not necessarily mean *quiet* withdrawal. The child may scream loud and long when faced with a new situation or perceived threat. A teacher reported one child who stood and screamed until he paled and passed out simply because he was transferred to an unfamiliar schoolroom. This behaviour appears to be due to the reflex’s involvement with the

parasympathetic nervous system. Most of us are familiar with the “fight or flight” adrenalin rush of the sympathetic nervous system, however the FPR taps into the opposing system urging the body to “eat and stay”. The parasympathetic nervous system is intimately involved with the vagus nerve. This nerve comes directly from the brain to aid the organs. It bypasses the spinal cord, so in the case of spinal injury we are still able to digest our food. The vagus nerve may be mechanically trapped in the skull, chest, abdomen or neck. Release of this nerve entrapment corrects one physical factor that contributes to the retention of the FPR.

Sudden Infant Death Syndrome (SIDS), elective mutism, hypersensitivity to sensory information, and panic disorders can be related to retention of the FPR beyond birth. As it is the first reflex to begin functioning and is normally the first to integrate, the retained fear paralysis reflex routinely affects the integration of other primitive reflexes.

Moro Reflex

The Moro reflex begins to function 9-12 weeks after conception and is normally fully developed at birth. It is the baby’s alarm reflex.

As a newborn is incapable of rational thought, it is protected by an alarm reflex, triggered by excessive information to any of the baby’s senses. A loud noise, bright light, sudden rough touch, or sudden stimulation of the balance mechanism (dropping or tilting), turns on this reflex. When the response to threat is elicited, the baby replies with the startle reaction followed by the protective pose of the foetal position. It arches the head back, lifts the arms up and back, spreads the hands and takes in a gasp of air, then curls forwards, pulls its legs up, folds its arms across its chest and breathes out as in a cry for help. The first phase would help if the child were falling, while the second phase acts to help grasping as if to cling to the mother and to aid protection of the organ centres. By incorporating these two sequential patterned movements as the response to the stressor, it prepares the child’s body for whatever the stimulant was which triggered the body’s alarm.

If the Moro reflex persists beyond three to six months of age it becomes an automatic, uncontrollable overreaction, strong enough to override the newly operating decision making centres in the brain. This may see the child (or adult) react to stimulation of the senses as if the stimulus was too intense. This oversensitivity (light, sound, touch or any stress) can show as the child implements withdrawal strategies in order to remove themselves from situations that most children would find exciting. They typically are seen to have trouble socialising, accepting or giving affection, and uncomfortable with new or stimulating experiences.

Fight or flight responses prepare the body for fighting or running. It relies on a burst of adrenalin into the bloodstream to provoke the energy you need to immediately remove yourself from an alarming situation. The Moro reflex stimulates this blueprint and is associated with oversensitivity to sensory stimulation, and therefore this reflex may frequently take place

inappropriately. In this case the child (or adult) may be an aggressive, over reactive, highly excitable person, unable to turn off and relax. These responses are purely for survival (to fight or to run). It can take place to the detriment of one's perceptiveness and sensitivity for noting the subtleties of circumstances, thus the person may struggle with social functioning (which includes the schoolroom, playground, workplace). The child (or adult) may be very difficult to understand. They may be loving, perceptive and imaginative but at the same time immature, overreactive and aggressive.

The Moro reflex may be triggered many times a day putting a constant demand on the adrenal glands which can become fatigued. As these glands play an important role in immune system functions, a person may experience chronic illnesses and allergies when the adrenals are fatigued.

When an inappropriate Moro reflex begins to integrate after therapy, there may be changes in emotional state or behaviour. Emotional ups and downs are common as the nervous system and hormonal system adjust. This is a normal and very temporary phase of integration. 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 (or teenager or adult) has the opportunity to pass through this important developmental phase.

Juvenile Suck Thrust

The baby's swallowing reflex projects the tongue forward which allows the baby to wrap their tongue around a nipple. This reflex matures to the adult swallow reflex whereby the tongue moves backwards to push a bolus of food down the throat.

If a Juvenile Suck Thrust is not adequately integrated, the tongue projects forwards before moving backward in the normal swallow. This tongue thrust continually pushes against the back of the front teeth. We swallow thousands of times each day just for saliva and this continual pressure can push the front teeth forward. This causes a 'class 2 occlusion' otherwise known as an overbite, one of the common problems requiring orthodontics or orofacial orthopaedics. It is a huge problem for dentists and their patients. The correction for retention of this reflex can be at any time of life however correction as early as possible is of course preferable. It may save the formation of buck teeth, an overbite and narrow upper palate, or recurrence of the overbite after orthodontic intervention.

Poor fine motor skills may be experienced due to the Babkin response, whereby the hands knead as the mouth sucks. This is a two-way response; hand movements may affect speech, just as chewing or speech may affect fine motor of the hands. This association is also discussed under Palmar Reflex below.

Rooting Reflex

Light touch on the cheek, or stimulation of the edge of the mouth will cause a baby to turn its head toward the side of stimulation and open its mouth with an extended tongue in preparation for suckling. It helps the baby put the nipple in its mouth.

If the Rooting Reflex is retained, there may be hypersensitivity around the lips and mouth. The tongue may remain too far forward, resulting in speech and articulation problems, dribbling, difficulty swallowing and chewing. They may be fussy eaters or thumb suckers.

This correction may promote normalisation of hormonal functions in children and adults. Both hypothyroid and hyperthyroid signs and laboratory tests have moved to normal range after this correction. Adrenaline and cortisol tests have moved towards normal. The bottom line is: patients' hormonal imbalance and their symptoms have cleared.

Palmomental & Plantomental Reflexes

This reflex is very similar to the Babkin response and some sources claim the Palmomental reflex is synonymous with the Babkin response. This reflex is where the hands move while the baby is suckling. This relationship also creates contraction of muscles at the mouth when a portion of the hand is stimulated. This reflex should integrate by the third month of life.

If retained, it may present in those children who bite others or have difficulty learning to use cutlery. They may move their jaw and tongue to mimic the movements of their hands such as when the tongue protrudes and wiggles while the fingers are moving, or their jaw opens and closes as they use scissors. Adults may clench the jaw whilst holding a steering wheel when driving and have extra tension in the muscles of their face, neck and upper body.

Due to the relationship between retention of this reflex and increased tension in the flexor muscles of the upper limbs, Carpal Tunnel Syndrome and tension in the calf muscles can resolve after the correction related to the retained PMR.

Palmar Reflex

The Palmar reflex is the infantile Grasp reflex. It is essential for developing fine motor skills and enhancing stereognosis (the ability to recognise an object only by feel) and sensory input. It is first apparent 11 weeks after conception and is fully present at birth. This neonatal reflex should ideally integrate during the second or third month of life. Failure of the Palmar reflex to appropriately integrate has been witnessed among children who present with difficulty writing and expressing thoughts.

As a baby we have an active Palmar, or Grasp, reflex. When the palmar surface of the hand is stroked, the fingers (excluding the thumb) flex toward the palm in an attempt to clasp whatever object may be the cause of stimulation. As motor control improves through proper neural development, the Palmar reflex matures into the pincer grip. It is normal for this transformation to take place by the fourth to sixth month of life and is evident as the three ulnar digits, and the index finger flex in turn as the child attempts to wiggle their fingers. Many children fail to integrate this reflex beyond this point to develop independent finger movements.

In children, their history often reveals poor handwriting, but more importantly, a poor ability to process their ideas and then write them down ie. copying words is easy, however the task of spelling words is more difficult and messy. Stories in written form may lack detail and do not flow, as they would if the child were to 'tell' the story verbally. Also, the child may be forced to slump when playing computer games, playing an instrument, or when performing any fine motor task such as playing with play-dough or making models. A continued Palmar reflex can have a lasting adverse effect upon fine muscle co-ordination, speech and articulation.

In the adult, we often hear "my back hurts when I sit in front of my computer". Typing relies on independent finger movement, as does playing an instrument. In these people core muscles which support the spine may weaken during these tasks creating bad posture. This may be particularly evident in office workers and musicians who mention symptoms associated with weak core stability, such as low back pain, bladder weakness, or tiredness when working. This correction not only has a profound effect on fine motor skills, written expression and manual dexterity, but also verbal expression, articulation and working posture.

Plantar Reflex

The Plantar reflex emerges in utero and is fully present at birth. It is usually integrated at four to six months of age. The Plantar reflex is similar to the Palmar reflex in that stroking or pressing on the ball of the foot causes the foot and toes to flex, or curl, so as to grasp whatever caused the stimulus. The Plantar reflex relates to the movement and coordination of the small muscles of the foot and appears to initiate many of the gross motor movements made by the infant.

Once the child stands and walks, it is imperative that the foot has developed an appropriate extensor response to pressure on the ball of the foot to provide adequate push-off during walking. As walking relies on the perfect harmony of rhythmic muscle contractions and relaxations throughout the body, disturbances in walking pattern can contribute to recurrent microstrain injuries of any kind and can be alleviated by correcting the Plantar reflex.

If the Plantar reflex is retained, balance and walking is affected. A child may take longer learning to walk, run awkwardly, and/or demonstrate poor balance. In some young children, the toes may curl under when putting on shoes, leading to difficulty getting the foot into the shoe. Older children will often have problems with sports, such as soccer, which rely on balance and

coordination whilst running. Adults often complain of lower back pain exacerbated by either walking or standing, or both. Ingrown toe nails, shin soreness and recurrent ankle twisting are also symptoms indicative of a likely retained Plantar reflex.

Asymmetrical Tonic Neck Reflex (ATNR)

The ATNR begins about eighteen weeks after conception. It should be fully present at birth and appears to assist the baby's active participation in the birthing process.

If a newborn's head is turned to one side, the arm and leg on the side to which the head is turned straighten outward while the opposite arm and leg pull in. The reflex continues after birth and plays an important part in the development of hand-eye co-ordination, object and distance perception.

While the ATNR is operating, the hand moves in conjunction with the head. This connection between touch and vision helps to establish distance perception and hand eye co-ordination. Normally this is accomplished by the middle of the first year of life rendering the reflex unnecessary, closely ensued by its integration. If the reflex persists, the hand-eye connection makes co-ordinated crawling difficult. When walking, turning the head results in the straightening of the arm and leg on the same side, upsetting balance and the normal walking pattern.

Once the hand-eye relationship is established in the early months, the ATNR functions to fix vision on anything that catches their interest. This enforces distance perception. If the ATNR is inappropriately retained the child (adult) is easily distracted by anything that attracts their attention.

With the ATNR retained, tasks involving both left and right sides of the body may be difficult to perform. This includes ears and eyes, as well as limbs, and can therefore make dominance of a side, in regards to that of an eye or hand, hard to distinguish. Turning the head may cause a visual image to momentarily disappear or parts of the visual field to be missed. Visual tracking and judgement of distance may be affected.

Each time the head turns to face the shoulder, the arm is urged to rise and the fingers are queued to open. Writing therefore requires enormous effort to keep the hand on the paper. Furthermore, the subtle movements of the hand required for writing is made even trickier when the head is moved from looking to the blackboard and then back to the hand. Excessive writing pressure to accommodate for this is often used with or without a clenched fist pencil grip. Needless to say, the quality and quantity of writing is affected. The act of writing requires immense concentration often to the extent of compromising thought processing for what is being written. Those natural story tellers who are wonderful with fluency of speech, can be unable to express ideas in written form and are likely to have the ATNR retained.

It has been found clinically that in those with a retained ATNR, looking at a hand will cause neurological disorganisation and body weakness. That is, both body and mind become

'scrambled' when the eyes are looking at a hand. This further affects hand-eye processing such as that used with writing, drawing & catching balls.

Adult sportspersons who suffer recurrent shoulder injury often have a retained ATNR. As their hand and eye are not functioning independently, there is a constant stress interrupting the fine balance required for smooth head, eye, arm, and hand co-ordination which may lead to structural problems, thus reducing sports performance.

Tonic Labyrinthine Reflex

TLR involves the vestibular system which regulates our balance and our sense of position in space. There are two aspects of this reflex, the Sagittal (forwards/backwards) and Lateral (side to side).

Retained flexion TLR (bending forwards) without extension TLR (leaning backwards) may produce the "floppy" child, while retained extension without flexion TLR may result in a rigid, awkward person with stiff and jerky movements.

If the TLR is not integrated by twelve months of age it will constantly interact with, and may disturb, the balance system. This may interfere with other sensory systems including visual function. It is recommended that cranial faults related to this reflex be corrected before starting Sound Therapy.

The child who still has a retained TLR when starting to walk may experience difficulty in judging space, distance, depth, speed and walking security.

When the head hangs forward whilst sitting, which is the conventional learning position, it makes concentrating difficult and very uncomfortable for the child.

This child is more likely to slump when sitting at a desk or a table, sit on his legs or generally twist and turn resulting in what appears to be inattentiveness and possibly hyperactivity. They also tend to be quite slow at copying tasks.

If it remains present in an older child, it can affect the integration of movement of the upper and lower limbs simultaneously such as when walking and swimming. These children are often diagnosed with dyspraxia (poor co-ordination) and ridiculed by other children for being clumsy.

Those with retained TLR often suffer motion sickness. Integration of retained TLR often assists those susceptible to motion sickness.

There are three separate corrections related to TLR. One helps concentration when working over a desk and helps to stop slumping over the desk. The other two help the body to co-ordinate movement, allowing it to move more efficiently.

Most patients beat their personal best time at their next marathon or fun run after this correction has been performed, or they can achieve their best speed, distance, strength or repetitions.

Stepping Reflex and Heel Reflex

The Stepping Reflex and Heel Reflex make up the essential hardwiring necessary for walking. Yet they are distinctly different. Both are required to attain the ideal upright posture that will minimise strains and over-use injuries to the lower limb musculature.

Our bodies alter our postural muscles depending on if we are standing with our weight over our toes or our heels. These two reflexes help to remove tension from the muscles of the lower leg to allow for increased ankle movement and establish ideal posture integrated with our vision.

A significant amount of information we take in from our environment is through vision, so where we hold our head (tipping too far forward or back) has a tremendous influence on our posture.

These two reflexes are aimed at balancing the connection between the input from our eyes and the feedback from our feet, yet interestingly, many people retain both.

Sagittal Tonic Neck Reflex – STNR

The STNR is not technically a Neonatal Reflex as it begins after birth, so it is categorized as a Postural Reflex. The STNR is present in normal development from 8 to 11 months of post-natal life and is a stepping-stone to crawling on the hands and knees. The Spinal Galant Reflex is also in this category. However, these distinctions become quite blurry.

Aberrant postural reflexes may cause some of the problems that arise from Retained Neonatal Reflexes (listed on page one) plus some not listed in that section. For instance the malfunctioning STNR symptoms may include poor hand-eye co-ordination, an ape-like walking pattern (rolled shoulders and forward lean), tendency to slump at a desk and/or poor posture due to a decrease in muscle tone (therefore affecting their function) especially of the spinal muscles. Focal accommodation (focusing on near then far objects) can be affected such as when looking from the classroom blackboard to the work book. Copying from the blackboard may therefore be slow and tedious, therefore missing a lot of information gathered in class. These people also have a tendency to be long sighted.

Sometimes the poor frontal lobe integration can display as poor organisational and planning skills.

Suprapubic Reflex

The Suprapubic Reflex is present at birth. The reflex is elicited when pressure is detected at the pubic bones and the body responds by tipping the pelvis forward, straightening both legs. If the skin over one pubis is firmly touched, one hip moves backward and the other moves forward.

The opposite pattern is seen in the upper body, enabling the baby to initiate commando crawling before the STNR activates to allow them to straighten their arms and legs to crawl on all fours. There appears to be a firm association between a retained Suprapubic Reflex correction and bladder and kidney function, tone of the pelvic floor, and the reproductive system. Interestingly, this correction can also diminish an overactive Umbilicus Reflex.

It seems also to link into one of the most ancient parts of the brain, the hypothalamus, which controls body temperature, appetite and sexual urges, and controls the glandular activity in the body, which regulates your unique biochemistry.