

# Asymmetrical Tonic Neck Reflex (ATNR)

Challenges  
observed when the  
ATNR is retained  
include...

Asymmetrical Tonic Neck Reflex (ATNR) links the movement of the head to one-sided movements. Typically, between 3-9 months of age, this reflex evolves into higher level movement patterns.

- *Hand-eye coordination deficits*
- *Reading challenges*
- *Immature handwriting*
- *Difficulty with sports*
- *Poor balance*
- *Inability to smoothly cross midline*
- *Poor depth perception*
- *Difficulty with math*
- *Opposing upper extremity and lower extremity dominance*
- *Marked discrepancy between their verbal expression and written expression*
- *Confusion regarding left versus right*

# Symmetrical Tonic Neck Reflex (STNR)

Challenges  
observed when the  
STNR is retained  
include...

The Symmetrical Tonic Neck Reflex (STNR) provides the separation of body movements between the upper and lower half of the body. Typically, between 9-11 months of age this reflex evolves into higher level movement patterns.

- *Poor seated posture*
- *Decreased attention*
- *Eye convergence divergence challenges - difficulty copying from the board*
- *Difficulty reading*
- *Typically child skipped crawling milestone*
- *Unable to coordinate hand & legs to crawl*
- *Avoids ball activities such as baseball or soccer*
- *Sits with legs in "W" position*
- *Poor eye-hand coordination*
- *Difficulty tying shoes*
- *Challenged by swimming*
- *Low muscle tone*

# Spinal Galant Reflex

Challenges  
observed when the  
Spinal Galant is  
retained include...

The purpose of the Spinal Galant Reflex is to encourage movement and develop range of motion in the baby's hip in preparation for walking and crawling. Typically, between 3-9 months of age this reflex evolves into higher level movement patterns.

- *Poor concentration*
- *Fidgety*
- *Poor short-term memory*
- *Mental fatigue*
- *Highly agitated by clothing tags & waistbands*
- *Handwriting impairment*
- *Often chooses to complete activities lying on the floor*
- *Bed wetting after potty trained*
- *Low endurance*
- *Chronic digestive issues*
- *Lower extremity clumsiness*
- *Easily loses focus*

# Palmar Reflex

The Palmar reflex is present at birth and is responsible for the closing of the hand when an object is placed in the baby's palm as well as flexion of their arms, and the opening of their mouth. Typically, between 2-4 months of age this reflex evolves into the development of the pincer grasp.

## Challenges observed when the Palmar Reflex is retained include...

- *Poor handwriting*
- *Grip the writing utensil too tightly*
- *Poor dexterity*
- *Inability to properly hold a writing utensil*
- *Dysgraphia*
- *Hypersensitive to tactile stimulation of the palm*
- *Unable to pick up small manipulatives with pincer grasp (thumb and index finger)*
- *Sticks out tongue during writing, drawing, or cutting*
- *Decreased fine motor coordination*
- *Hand fatigue with writing*
- *Articulation difficulties*

# Tonic Labyrinthine Reflex (TLR)

Challenges  
observed when the  
TLR is retained  
include...

The Tonic Labyrinthine Reflex (TLR) teaches the infant about gravity and prepares them for head management during activities such as rolling over, crawling, standing, and walking. Typically, forward integration occurs between 3-4 months and backward integration by 3-4 years of age.

- *Toe walking*
- *Overly flexible*
- *Difficulty staying focused*
- *Decreased sense of rhythm*
- *Bumps into others and things more frequently than children their age*
- *Sensitive to movement - motion sickness*
- *Poor balance and spatial awareness*
- *Inability to demonstrate sustained attention*
- *Cross-eyed due to weak ocular muscles*
- *Displays poor organization*
- *Hunched posture*
- *Organizational deficits*