

# PRIMITIVE REFLEXES AND DAILY ACTIVITIES



By Lindsey Murphy, OTR/L

We all know someone that may startle any time that a balloon pops or a loud firework explodes. We've also been riding in the car with a driver that turns to look out the window, and the car veers to whichever direction they are peering into. We have friends that might bump into items frequently or have difficulty judging where their bodies are relative to objects in the environment. We also know individuals with poor posture that avoid tight waistbands in pants and frequently fidget in chairs. If any of these experiences bring specific individuals to our minds, an explanation of the possible neurological cause and remedy is fascinating.

As babies, we naturally have what are referred to as primitive reflexes. These reflexes have specific purposes to help protect us or assist us with functions during our early infant development. For instance, the Moro reflex's purpose in babies is to initiate a fight or flight response to alert others that there is a problem. It appears at birth and should be completely integrated (no longer present) by 4 months of age. However, if a malfunction occurs that prevents the Moro reflex from integrating properly, it can cause symptoms such as sensory overload, poor impulse control, asthma/ allergies, hypersensitivity (especially to loud or sudden noises), and social/ emotional immaturity. What causes primitive reflexes to remain present instead of naturally integrating? There are actually numerous factors that affect this integration process. Aspects such as birth complications, toxins, limited crawling or tummy time, low muscle tone, or trauma/ illness/ injury are a few factors that may cause a reflex to remain or become retained again during childhood and even adulthood.

While the Moro reflex can create challenges related to sensory overloads and hyper-reactivity, the Spinal Galant (if not integrated by 9 months of age) can cause bedwetting, poor concentration or posture, sensitivity to tight waistbands, fidgeting, and even scoliosis. The TLR reflex, if retained after 3.5 years of age, can cause poor muscle tone/ balance, motion sickness, and spatial relations challenges. The ATNR and STNR reflexes are crucial when babies first learn to crawl, but these later cause difficulties if they remain. Unintegrated ATNR and STNR reflexes may lead to poor hand-eye coordination, concentration, handwriting, midline crossing, driving, reading, and visual tracking abilities. The palmar reflex helps babies with grabbing items but causes fine motor skill, grasp, speech, and handwriting challenges if retained after 6 months of age. The rooting reflex assists babies with eating but after 4 months of age can lead to speech problems and thumb-sucking behaviors.

If you or anyone that you know experience those signs of retention and are curious about whether primitive reflexes may be causing functional challenges during your daily activities, seek out an evaluation from an occupational therapist or other professional that is specially trained in evaluating primitive reflexes and providing exercises for integration.

Here is a chart providing specific integration exercises associated with each reflex and functional activities that promote regulation or increase integration when this reflex is retained:

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| Primitive Reflex            | Integration Exercises                                                                  | Functional Activities to Promote Integration and/or Regulation                                                                                                                                                       |
|-----------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Moro</i></b>          | Starfish pose lying supine, then pulling and holding the position of deep flexion      | Sensory diet, weighted blanket, deep breathing, routines, deep flexion activities, emotional regulation strategies                                                                                                   |
| <b><i>Spinal Galant</i></b> | Snow angels                                                                            | Crawling, loose fitted clothes, posture support, backless chairs for comfort                                                                                                                                         |
| <b><i>Palmar</i></b>        | Ball squeezing, digital separation of fingers                                          | Finger puppets, playing an instrument, tactile bins/ putty, ripping or crumpling paper, fine motor development tasks                                                                                                 |
| <b><i>ATNR</i></b>          | Robot exercise, Zombie marches                                                         | Midline crossing activities, pushing a shopping cart while turning the head, crawling through tunnels while searching for items, zombie walks while turning head, walking with monster feet, handwriting development |
| <b><i>STNR</i></b>          | The stretching cat exercise, STNR rocking tasks                                        | Crawling (particularly with items under the chin to promote neck flexion with arm extension), hand-eye coordination development, sustained attention strategies                                                      |
| <b><i>TLR</i></b>           | The Meatball, foot massage activity while lying flat and supine on the floor, Superman | Body awareness in space tasks, proprioception development, activities completed while prone, vestibular development, spatial orientation tasks                                                                       |
| <b><i>Rooting</i></b>       | Cat whiskers exercise (facial massage from ear to mouth)                               | Chewing gum, chewy necklaces, sucking on a straw from a water bottle                                                                                                                                                 |

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