

## Primitive Reflexes

Primitive reflexes play a developmental role, preparing the neonate to move against gravity, gradually leading to voluntary movement through the process of integration during the first months of life. Primitive Reflexes are the first part of the brain to develop and should only remain active for the first few months of life. In typical development, these reflexes naturally inhibit in sequential order during the first year, and replacement reflexes, called postural reflexes, emerge. Integrated Reflexes refer to the inhibition of the reflexes by the higher centers of the brain, which modify the reflexes in such a way that the pattern of response is no longer stereotypical. Reflex integration is a process to help a neurological arc that has both a specific stimulus and a predictable response or responses work more efficiently. Reflex integration is when specific developmental primitive reflexes are naturally phased out because they are no longer useful or necessary. Reflexes are involuntary, meaning the child has no control over them. Primitive reflexes lay the foundation for the nervous system and continue to work in concert with it throughout our lives. These reflexes are repetitive, automatic movements essential for the development of head control, muscle tone, sensory integration, and development. They form the basis of our postural, lifelong reflexes. These reflexes naturally inhibit in sequential order during the first year, and replacement reflexes, called postural reflexes, emerge.



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### Integrated Reflexes

#### Integra Reflex-hammer

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### Rooting Reflex

#### Roots

The rooting reflex in babies is a basic survival instinct. When the corner of the baby's mouth is gently stroked with a nipple, the baby should instinctively turn the head toward the stimulus to nurse. This reflex helps the baby find and latch onto a bottle or a breast to begin feeding.

### Sucking/Swallowing Reflex

#### Sucking

To stimulate the sucking response, touch the roof of the infant's mouth, and they will automatically begin sucking. This reflex will disappear by about 2 months old.

### Traction

#### Tractor

Grasp the infant's forearms & pull-to-sit. The positive reaction is complete flexion and elevation of the upper extremities. The onset age is 28 weeks gestation and is typically integrated at 2 - 5 months of age.

## **Moro Reflex**

### [Moro-monster](#)

The Moro reflex, also called the startle reflex, can be seen in a frightened infant up to about 4 to 6 months old. The reflex causes a baby to stretch out their arms and legs and quickly bring them back in jerky movements. This reflex is in response to the feeling of falling, a loud sound, or a drastic change in temperature. If it persists, it can cause hypersensitivity and easily trigger emotional outbursts.

## **Palmar Reflex**

### [Palm-tree](#)

Place finger in palm. The positive response is finger flexion. Onset age is 37 weeks gestation and integrated at 4-6 months old. The palmar reflex is important for the development of purposeful grasping, something an infant learns throughout their first year of life.

## **Spinal Galant Reflex**

### [Spine Gallant-hero](#)

The spinal Galant reflex happens when the skin along the side of an infant's back is stroked. The infant will swing towards the side that was stroked. A positive reaction is the flexion of the lateral trunk and wrinkling of the skin on the stimulated side. The onset age is 32 weeks gestation and typically integrated at 2 months of age. If it persists, it may affect a child's posture, coordination, attention, and ability to sit still. Retention of the spinal galant reflex is also associated with bedwetting.

## **Plantar Grasp**

### [Plants](#)

Put pressure using the thumb on the ball of the foot of the infant. The positive reaction is toe flexion. Onset is 28 weeks and integrated at 9 months of age.

## **Asymmetrical Tonic Neck Reflex (ATNR)**

### [Asymmetrical Tonic Neck](#)

To elicit this reflex, turn the child's head to one side. This action should cause the arm and leg on the side to extend or straighten while the other arm and leg flex. This reflex is important to the initiation of crawling, as the arms and legs move as a baby turns their head while on their belly. The ATNR should disappear around the time an infant is gearing up for crawling, around 6 months old.

## **Tonic Labyrinthine Reflex (TLR)**

### [Tonic Labyrinth](#)

In the TLR reflex, tilting the head back while lying on the back causes the back to stiffen and even arch backward, the legs to straighten, stiffen, and push together, toes to points, arms to bend at the elbows, and wrists and hands to become fisted or the fingers to curl. The tonic labyrinthine reflex (TLR) is used for head and postural control. The onset age is > 37 weeks gestation and is typically integrated at 6 months of age.

## **Symmetric Tonic Neck (STNR)**

### [Symmetric Tonic Neck](#)

Place the infant in the crawling position and extend the head. A positive response is the flexion of the hips and knees. It significantly facilitates quadruped position in preparation for crawling and breaks up total body extension. It emerges at 4-6 months and integrates at 8-12 months old.

## **Landau**

### [Land-owl](#)

It's a reflex seen in infants when held horizontally in the air in the prone position. When the child is supported horizontally in the prone position, the head rises, and the back arches. It emerges 3 months after birth and lasts until up to 12 months to 24 months of age.

## **Neck Righting**

### [Neck Correctly-upright](#)

Also known as "Neck Righting on Body" or "NOB." Place the infant in supine, and turn the head to one side. The infant's entire body will turn in the direction of the head. This reflex significantly facilitates rolling and maintains body orientation in response to cervical position changes. Onset age is 4-

6 months and integrated at the age of five.

### **Body Righting**

#### **Body Correctly-upright**

Also known as “body righting on body” or “BOB.” Place the infant in a supine position, flex the hip/knee over the chest, and hold briefly. The child's upper body follows the pelvis in a log roll. Onset age is 4-6 mos and integrated at the age of five.

### **Babinski Reflex**

#### **Baby-ski**

Foot stroked from heel to the base of toes. A positive reaction causes an extension of the big toe, and the other toes will fan out.