

Newborn Reflexes

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Reflexes are characterized as involuntary movements or actions and are a key indicator of a healthy brain and nervous system in newborn babies. There are five primitive reflexes that are common for infants who do not experience central nervous system (CNS) deficits. Furthermore, newborn reflexes are also considered to add adaptive value by increasing their chances of survival.

The root reflex and the suck reflex both occur when a baby's mouth is stimulated by an outside source; both also relate to a baby's instinct to eat. The root reflex causes a newborn to turn its head in the direction of the food source when a corner of its mouth is touched. This is an adaptive reflex because it helps a newborn locate a bottle or other means of nutrients. Additionally, the suck reflex causes a baby to begin to suck when the top of its mouth is touched, which helps prepare the newborn for consumption of breastmilk or formula. By having these reflexes, the newborn is receiving the necessary nutrients that it needs to sustain life.

The Moro reflex, commonly referred to as the startle reflex, occurs when a baby is startled or surprised by a sudden movement or loud sound. The baby responds to these stimuli by extending their arms and legs, throwing their head back, and then retracting their arms and legs. A common precursor to this reflex is when the baby loses support of their head, and they feel as if they are going to fall. This reflex is present for approximately 5 to 6 months.

The Tonic reflex is divided into either being symmetrical or asymmetrical. The asymmetrical tonic reflex is also referred to as the fencing position. When the infant's head is

turned a certain direction, the same side arm will extend and the other arm will bend. Research suggests that this reflex is correlated to the later development of hand eye coordination. This reflex is present from 1 to 4 months of age. The symmetrical tonic reflex has to do with the flexion and extension of the neck. When the infant bends their head forward, their arms will retract and legs will extend. Conversely, when the head is pulled back and the neck is contracted, their arms will extend and legs will contract. This reflex helps the infant learn to push up on their hands and knees, and it develops around 6 to 9 months of age.

The Grasp and Babinski reflex refer to the infant's hands and feet. The Grasp reflex occurs when the infant's palm is touched, causing them to involuntarily close their hand. Like the Moro reflex, this is present for the first 5 to 6 months of life. The Babinski reflex occurs when the sole of the foot is stroked. This is present for approximately 2 years, and it results in the big toe bending down and the other toes fanning out.

The step reflex is a precursor to walking and it occurs when the baby's feet touch a hard surface. This reflex makes the baby seem as if they are trying to walk by moving their legs in a stepping motion. The parachute reflex is another newborn reflex that develops in slightly older infants. When the baby is rotated and has their body facing down, their arms will extend to try and catch themselves. Another infantile reflex is the Galant reflex. This occurs between 4 and 6 months and is a response to the palpation of the back. By stroking a side of the infant's back, they will move to the side that was touched. The Babkin reflex is more prevalent in premature infants and occurs when pressure is applied to the newborn's palms. Once the pressure is applied, they will rotate their head and/or open their mouth. The presence of the reflex is dependent on pressure being applied to the palms.

All in all, primitive reflexes are an important part to both physical and adaptive functioning. These involuntary movements are often good predictors of motor and sensory development. When an infant displays weak or absent reflex responses, spinal cord, nerve, or muscular damage may be present. Furthermore, reflexes that persist beyond a certain age may also infer damage to the brain or nervous system. The overall importance of primitive reflexes in relation to motor functioning and development is to better understand and identify normal versus abnormal nervous system function.

References

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