

Postural Reflexes

Postural reflexes are maturational motor skills that develop during the first year of life and form the basis for the attainment of functional motor skills. Postural reflexes respond to more global stimuli than primitive reflexes and last a lifetime to support movement and balance. The effects of gravity on the body trigger postural reactions. Postural reflexes are mature patterns of response that control balance, coordination, and sensory-motor development. Lifetime reflexes that persist include 1) Optical head righting, 2) Labyrinthine righting, 3) Downward parachute, 4) Forward parachute, 5) Sideward parachute, 6) Backward parachute, 7) Prone tilting, 8) Supine tilting, 9) Quadruped tilting, and 10) Standing tilting.



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Righting Reactions

Optical Head Righting

Eye Head Correctly-upright

To perform the test for optical head righting, hold the baby suspended vertically and tilt off center. A positive response is upright positioning of the head, indicating that the infant is able to orient their head in space. Onset age is birth-2 months and typically persists throughout life. This reflex is significant for orienting the head in space.

Labyrinthine Righting

Labyrinth Correctly-upright

To test for labyrinthine righting, cover the child's eyes to eliminate visual cues for orientation. A positive response is the child's head maintained in an upright position and rising vertically in relation to gravity. The labyrinthine is a structure in the ear that helps maintain and regain balance. The onset age for this reflex is birth to 2 months persists. This reflex is significant for orienting the head in space and allowing the body to turn while maintaining an upright head position.

Protective Reactions

Downward Parachute

Downward Parachute

The downward parachute is also known as protective extension downward. To test for this reflex, suspend the child vertically, usually held under the arms, and lower them rapidly to simulate a falling sensation. The positive response is the extension of the lower extremities. Onset age is 4 months persists. Protective extension of the limbs is important to protect the person from injury during loss of balance as it is a whole-body response to instability.

Forward Parachute

Forward Parachute

The forward parachute is also known as protective extension forward. To test for this reflex, vertically suspend the infant with a hold under the arms at mid-thorax and suddenly tip them forward. A positive response is an extension of the upper extremities and hands opening to protect against a fall. The onset of this reflex is 6-9 months persists.

Sideward Parachute

Sideward Parachute

The sideward parachute is also known as protective extension sideward. To test for this reflex, tip the infant off-balance to the side. A positive reaction is arm extension and abduction to the side. The onset age for this reflex is 7 months and it persists.

Backward Parachute

Backward Parachute

To test for the backward parachute reflex, tip the infant off-balance backward. A positive reaction is backward arm extension. The onset age for this reflex is 9-10 months and it persists.

Equilibrium Reactions

Prone Tilting

Prone Tilting

To test for the prone tilting reflex, position the infant prone on a tilt board and raise one side of the surface. A positive response is the spine curving toward the raised side and extension/abduction of all 4 extremities. The onset age for this reflex is 5 months, and it persists throughout the lifetime to maintain equilibrium and make postural adjustments.

Supine Tilting

Supine-spine Tilting

To test for the supine tilting reflex, position the baby supine or sitting on a tilt board and raise one side. A positive response is the spine curving toward the raised side and the extension/abduction of both the arms and legs. The onset age of this reflex is 7-8 months, and it typically persists throughout the lifetime to maintain balance and postural adjustments.

Quadruped Tilting

Quad-moped Tilting

To test for the quadruped tilting reflex, use a tilt board, position the infant in quadruped, and raise one side. A positive reaction consists of the spine curving toward the raised side and the extension/abduction of all 4 extremities. The onset age for this reflex is 9-12 months, and it persists throughout the lifetime.

Standing Tilting

Standing-guy Tilting

To test for the standing tilting reflex, use a tilt board, position the child standing, and raise one side. A positive reaction involves the spine curving toward the raised side and the extension/abduction of all 4 extremities. The onset age for this reflex is 12-21 months, and it persists throughout the lifetime as the first line of defense against falling. This reflex is also crucial for maintaining balance and making postural adjustments.