

Beebe School of Nursing
Nursing 201 – Nursing Care of Special Populations

Newborn Reflexes

Reflex	How to elicit	Response
<i>Disappears by 6 months:</i>		
Rooting	Brush or stroke the newborn's cheek near the corner of his mouth.	Serves to help the baby find food. Disappears at 4 months.
Sucking	Stimulate the lips, cheek or corner of the mouth with nipple or finger	The newborn makes a sucking motion; sucks and takes food. Begins to diminish at about 6 months of age but may persist throughout life. The reflex disappears immediately if it is never stimulated. May observe during sleep.
Extrusion	Touch the anterior tip of tongue	Tongue darts forward; implications for feeding solids; constant unevoked extrusion associated with Down's syndrome. Disappears at 4 months.
Palmar grasp	Place an object in a newborn's palm,	The infant will grasp it by closing his fingers on it. Newborn begins to grasp meaningfully at about 3 months of age. Disappears at 6 weeks to 3 months.
Plantar grasp	Touches the sole of the newborn's foot at the base of the toes with an object.	The Infant's toes grasp in the same manner as his fingers do. Disappears at 8-9 months, in preparation for walking.
Stepping (walking)	Hold the infant in a vertical position and his feet touch a hard surface	The infant will take a few quick alternating steps. Disappears at 3-4 months.
Placing	Similar to the stepping reflex, except it is elicited by touching the anterior surface of the newborn's leg against the edge of a table.	The newborn makes a few quick lifting motions as if to step up on the table. Disappears at 10-12 months.
Tonic Neck (fencing)	With a relaxed newborn on his back, his head is quickly turned to one side.	The arm and leg on the side to which his head is turned extend, whereas the opposite arm and leg flex. This reflex does not appear to have a function. It does stimulate eye coordination, since the extended arm moves in front of the face. Disappears by 6 months.
Moro (startle)	Sudden jarring or change in equilibrium, such as allowing the head to drop backward an inch while in a supine position, or a loud noise.	The newborn symmetrically extends, the adducts, both arms while hands close and thumb and index finger form a "C" shape. Disappears by 6 months, when the infant can roll away from danger.
Landau	Hold the infant in a prone position with a hand underneath him supporting his trunk, he should demonstrate some muscle tone.	While he may not be able to lift his head or arch his back (as he will be at 3 months) neither should he sag into an inverted "U" position. The latter response indicates extremely poor muscle tone. Disappears at 12-24 months.
Bauer's Response (spontaneous crawling)	Pressing hands gently on the soles of the feet	Spontaneous crawling movement. Difficult to get in the first 2-3 days.
Chvostek's	Tap the index finger over the parotid gland, just in front of the ear.	Response is that the facial muscles surrounding the eye, nose, mouth contract unilaterally. In tetany, hypoglycemia, or among infants of diabetic mothers a facial twitching may occur.
Lip	Sharply tap either lip near the	The lips pouch out and protrude. It will not

	angle of the mouth.	happen if the infant is crying or sucking.
Glabella	Elicited by tapping briskly on the glabella (bridge of the nose).	Normally the eyes will close tightly. Watch for a lack of symmetry indicating paralysis.
Acoustic Blink	Eliciting a blink reflex by a loud clap of the hands.	No response may indicate auditory problems. Hard to elicit before 3 days of age.
Arm Recoil	Extend both of the baby's arms simultaneously by pulling them outward by the wrists. Let go quickly and observe the response.	Normally both arms should flex briskly at the elbows. This response should be strongest in the first 2 days of life but should persist throughout neonatal life. Watch for symmetry.
Masseter	Place one index finger on the lower chin and tapping it sharply with the index finger of the other hand.	A quick contraction of the masseters will lift the chin, a movement that can be felt better than visualized. Weaker in the first 2 days, present for the first 10 days. Absence may mean brain stem lesions or lesions of the 5 th cranial nerve.
Rotation test	Hold the baby upright, facing the practitioner. Spin the baby around with yourself, first in one direction and then in the other.	The infant's head and eyes should turn to face the direction of the movement.
Gluteal	Spread the buttocks and lightly scratch the perianal area.	The infant should respond with a quick contraction of the anal sphincter.
Triceps	Bend the elbow and strike the triceps tendon behind the elbow.	The elbow should jerk partly straight. Absence may indicate nerve damage.
Brachioradialis	Tap the styloid process (knob on the thumb side of the wrist) of the radius.	This should bend the elbow and pronate the forearm.
Chaddock	Stroke the lateral aspect of the foot directly under the lateral malleolus.	Abnormal is fanning of the toes.
Oppenheim	Run the thumb and index finger briskly down the shin.	Abnormal is fanning of the toes.
Perez	Hold the neonate in the prone position in the examiner's hand. The thumb of the other hand is placed on the sacrum of the neonate and is move firmly up the spine and toward the head	Neonate will cry, extend head, straighten spine, flex legs and void. Disappears at varying times. Useful in urine specimen collection.
Red Reflex	Visualize a small red-orange circular spot with the ophthalmoscope at the pupils.	The red reflex is caused by light falling on the retina. Absence indicate opacity of the lens.
Corneal	Touching the cornea lightly	Will result in eye closure.
<i>Cerebral Palsy</i>		
Positive Supporting	Touch the table with the ball of the infant's foot.	The infant will usually extend his legs and bear some weight. Crossing the legs may indicate cerebral palsy.
Neck righting	Turn the infant's head to one side, his body should follow.	Disappears by 3 years. Infants with cerebral palsy cannot execute this maneuver
Side-turning	Place the baby prone with his head in mid-line.	The normal baby will correct his face by turning his head to one side. Children with cerebral palsy will fail to do this.
<i>Neonatal Tetany</i>		
Trousseau's Sign	Constrict the upper arm for 2-3 minutes until the area becomes blanched.	Carpal spasm is elicited (hand abducts, wrist flexes and thumb is positioned across cupped palm). Present in neonatal tetany.
Peroneal	Tap the fibular side of the leg over the peroneal nerve.	The foot abducts and dorsiflexes. Present in neonatal tetany
Erb's	Current is applied over the peroneal nerve just below the head	The foot on that side will abduct and dorsiflex. Present in neonatal tetany. (rarely done)

	of the fibula.	
<i>Spinal Cord Integrity</i>		
Magnet	Apply pressure to the soles of the feet of an infant lying in a supine position.	The infant pushes back against the pressure. A test for spinal cord integrity. May be weak in infants with a breech presentation or with sciatic nerve damage. Disappears at 4 weeks.
Crossed extension	Extend one leg of a newborn lying supine rub the sole of that foot with a sharp object.	The newborn will raise the other leg and extend it as if trying to push away the hand irritating the first leg. A test for spinal cord integrity. May be weak in infant with peripheral nerve damage. Disappears at 4 weeks.
Trunk Incurvation	Stroke the paraveteleral line.	The infant moves his hips toward stimulated side. A test for spinal cord integrity. Disappears at 4 weeks.
Biceps Reflex	Tap the biceps muscle in the elbow area.	Results in short contraction felt in the biceps muscle and in the infant's wrist. Test for spinal nerves C-6 and C-7.
Patella Deep Tendon	Relax both legs, then tap the tendon below the patella.	The knee jerks from extension of the knees by contraction of quadriceps muscles. Test for spinal nerves L-2 through L-4.
Achilles Deep Tendon	Dorsiflex the foot and tap the back of the heel.	Ankle jerk occurs.
Withdrawal	Stimulate by pricking the soles of the feet one at a time.	The leg of the foot stimulated will flex at the hip, knee and ankle. Although this response should be constant for the first 10 days of life it may be missing if the spinal cord is damaged, weak with sciatic nerve damage and weak in the case of a breech presentation with legs extended. Watch for symmetry
Cremasteric	Males. Stroke the inner thigh with a sharp object	The testis on that side to be drawn from the scrotum into the abdomen. Absence may indicate a spinal cord lesion (T8- T10). May also be elicited by cold or fear. May be absent in infants less than 10 days old.
Galant's	Scratch a pin along the side of the spinal column, about 3 cm from midline from shoulder to buttocks.	The trunk should curve to the side of the scratch. In the presence of a lesion, there will be no response below the level of the lesion. Easiest to obtain 5-6 days of age.
Abdominal	Stroke the four quadrants surrounding the umbilicus lightly with a pin.	The expected response if the umbilicus to move toward the quadrant which was stroked. The response is usually weak the first two days but almost always present for the first 10 days . Assymetry may indicate a problem with spinal nerves (T8-T10).
<i>Persists throughout life:</i>		
Optical blink	Spontaneous or deliberately evoked by a strong light or finger approaching the pupil.	Protects from harm and prevents drying of cornea. Response is that the eyes shut quickly. Absence may indicate poor or no light perception. Persists throughout life.
Yawning	Spontaneous	Regulates oxygen intake and pressure within eustacian tube. Persists throughout life.
Sneezing	Spontaneous response to irritation or obstruction of nasal passages.	Persists throughout life.
Shivering	Spontaneous or response to chill.	Appears at about 1 month of age in response to chilling, which causes vasoconstriction. Persists throughout life.

Gag	Stimulation of gag center.	Prevents material from entering trachea. Persists throughout life.
Swallowing	Food that reaches the posterior portion of the tongue will automatically be swallowed.	Keeps the pharynx free of obstructing mucus. Persists throughout life.
Parachute	Suspend the infant in a horizontal prone position, suddenly thrust the infant downward.	Hands and fingers extend forward and spread as if to protect from falling. Appears at about 7-9 months, persists throughout life.
Babinski	Stroke the outer sole of foot and then across ball of foot.	Toes hyperextend (positive) in contrast to the adult who flexes his toes. Converts to adult type by 3-7 months