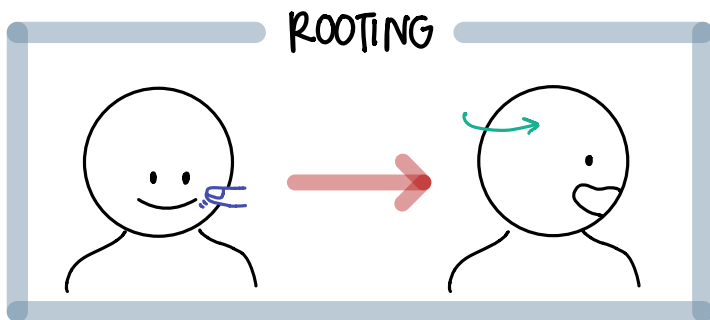


PEDIATRIC

REFLEXES



onset age: 20 wks gestation

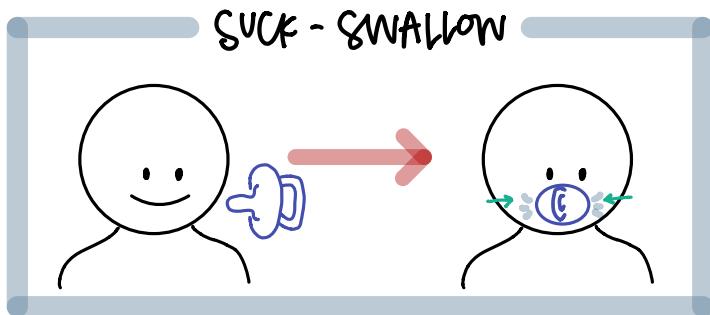
integration age: 3 months

position: supine/sitting with head in midline

stimulus: stroke the corner of the mouth, upper lip, and lower lip

response: movement of tongue, mouth, and head towards stimulus with opening of the mouth

*** relevance:** allows for searching for and locating the feeding source



onset age: 20 wks gestation

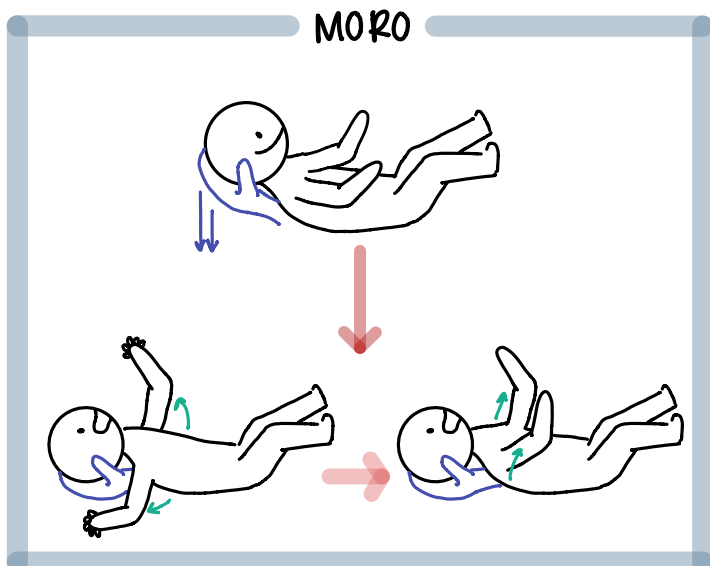
integration age: 2-5 months

position: supine with head in midline

stimulus: place finger or nipple inside the infant's mouth

response: lip closure followed by strong, rhythmical suck and finally swallow

*** relevance:** allows for ingestion of food (feeding)



onset age: 20 wks gestation (finger ext) - 41 wks (complete)

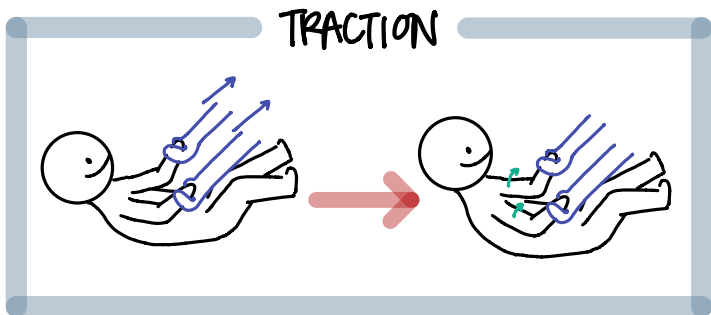
integration age: 5-6 months

position: supine with head in midline

stimulus: rapidly drop the infant's head backwards ~ 30°

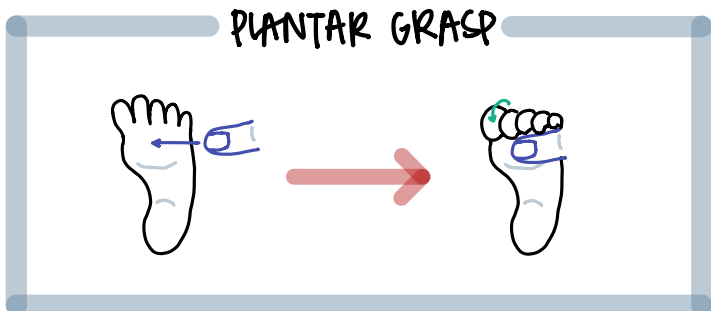
response:
1. arm ext/abd and hand opening
2. arm flex/add
* often with crying, shaking

*** relevance:** helps to break up the physiological flexion seen in newborns



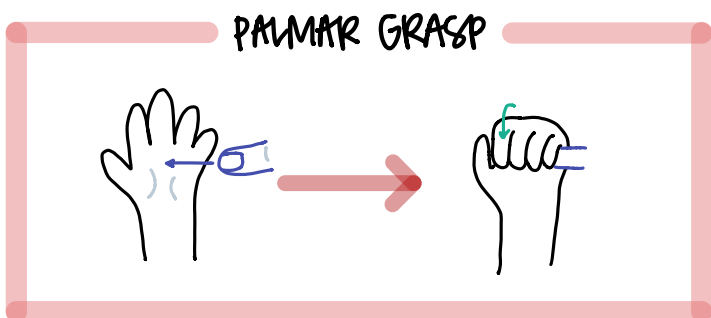
onset age: 28 wks gestation
integration age: 2-5 months
position: supine with head in midline
stimulus: grasp infant's forearms and pull to sit
response: complete flexion of both UE including grasp

* **relevance:** enhances momentary grasp



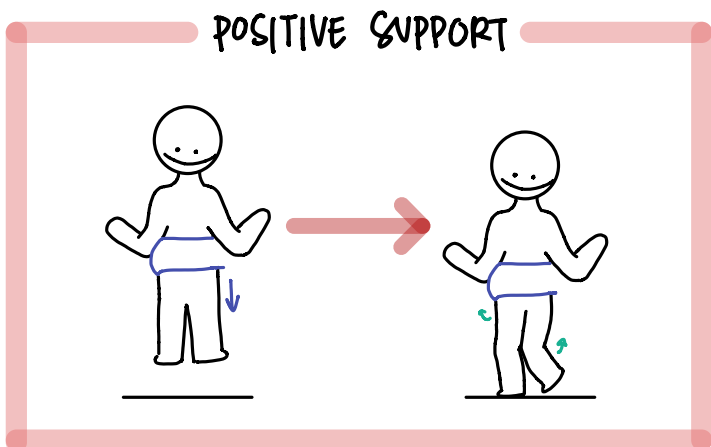
onset age: 28 wks gestation
integration age: 9 months
position: supine with head in midline
stimulus: apply pressure with your thumbs on the ball of the infant's foot
response: toe flexion

* **relevance:** important for stance phase of gait



onset age: 37 wks gestation (birth)
integration age: 4-6 months
position: supine with head in midline
stimulus: place your index finger in the infant's palm from the ulnar side and give pressure to the palm
response: 1. "catching" or a quick flexion and adduction of the arms
 2. "holding" or reflexive grasp

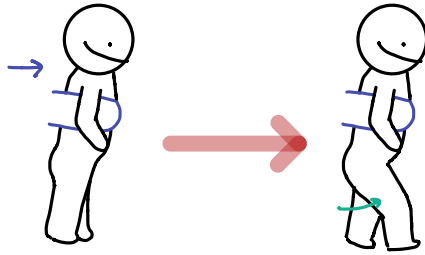
* **relevance:** enhance grasp



onset age: 35 wks gestation
integration age: 1-2 months (immature)
 6 months (mature)
position: hold infant upright under the arm around the chest (immature)
 upright standing (mature)
stimulus: bring infant downward allowing his feet to make contact with the support surface (immature)
 contact on the ball of the foot on the support surface (mature)
response: partial WB with hips & knees slightly flexed (immature)
 rigid extension of LE (mature)

* **relevance:** allows for WB in upright

SPONTANEOUS STEPPING



onset age: 37 wks gestation

integration age: 2 months

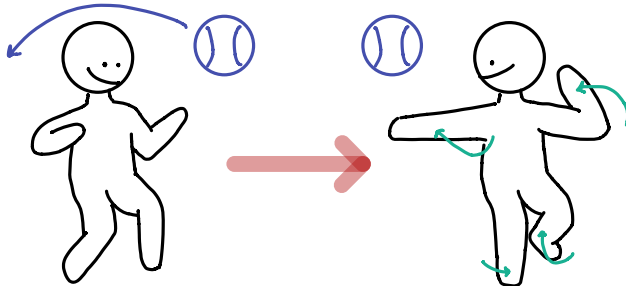
position: hold infant upright under the arm around chest

stimulus: incline the infant forward

response: automatic stepping

*** relevance:** spontaneous stepping

ASYMMETRICAL TONIC NECK (ATNR)



onset age: 37 wks gestation

integration age: 4-6 months

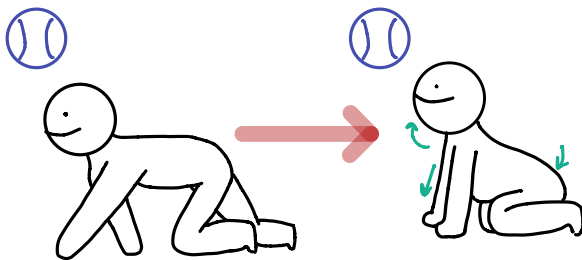
position: supine

stimulus: use a visual stimulus to encourage the infant to follow and turn his head 100°

response: extension of the extremities on the face side with flexion of the extremities on the skull side (fencer's position)

*** relevance:** promotes visual regard for the hand

SYMMETRICAL TONIC NECK (STNR)



onset age: 4-6 months

integration age: 9-12 months

position: ventral suspension, across your lap, or on all 4's

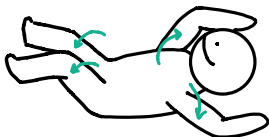
stimulus: head extension or flexion

response: head extension → UE ext, LE flex

head flexion → UE flex, LE ext

*** relevance:** breaks up total extensor posture and facilitates quadruped position

TONIC LABYRINTHINE (TLR-G)



onset age: > 37 wks

integration age: 6 months

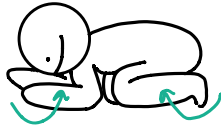
position: supine

stimulus: being in a supine position

response: increased extensor tone

*** relevance:** facilitates total body extension

TONIC LABYRINTHINE (TLR-P)



onset age: >37 wks

integration age: 4 months

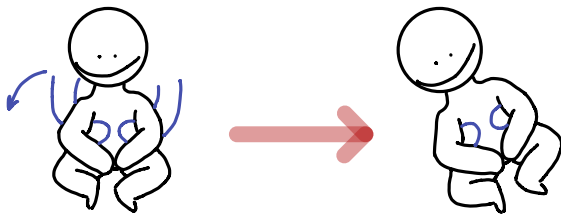
position: prone

stimulus: being in the prone position

response: increased flexor tone

* relevance: facilitates total body flexion

LABYRINTHINE HEAD RIGHTING REACTION



onset age: birth - 2 months

integration age: persists

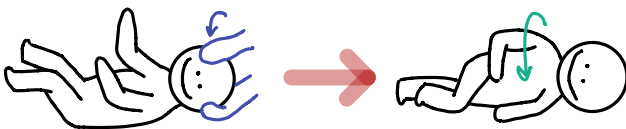
position: hold infant in vertical suspension with blindfold on (can also do with pull to sit)

stimulus: slowly tilt (~45°) to the side, forwards, or backwards → gravity is the stimulus

response: upright positioning of the head

* relevance: orients head in space and maintains face vertically → head control

NECK RIGHTING



onset age: 4-6 months

integration age: 5 years

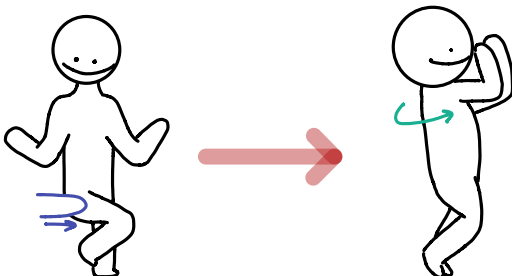
position: supine

stimulus: fully turn the infant's head to one side

response: log rolling of the entire body to maintain alignment with the head

* relevance: maintains head and body alignment and initiates rolling

BODY RIGHTING



onset age: 4-6 months

integration age: 5 years

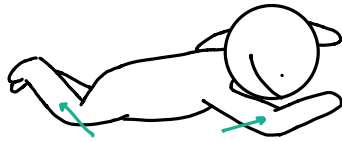
position: supine

stimulus: flex one hip and knee towards the chest, adduct, rotate the pelvis, and hold briefly

response: segmental roll of the upper trunk to maintain alignment

* relevance: facilitates trunk and spinal rotation and improved trunk control

LANDAU



onset age: 3-4 months

integration age: 12-24 months

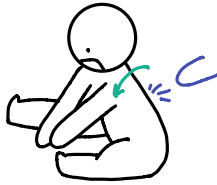
position: horizontal prone suspension

stimulus: hold infant in horizontal prone suspension

response: complete extension of the head, trunk, and extremities

*** relevance:** breaks up flexor dominance and facilitates prone extension

PROTECTIVE REACTION UE - FORWARD



onset age: 6-7 months

integration age: persists

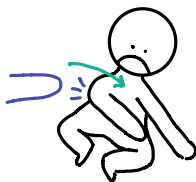
position: vertical, sitting, or kneeling

stimulus: suddenly tip the infant forward toward the supporting surface

response: sudden extension of both UE's, hand opening and neck extension (to break the fall)

*** relevance:** enhances UE WB, reach, and grasp; protection from a fall

PROTECTIVE REACTION UE - SIDWARDS



onset age: 7-8 months

integration age: persists

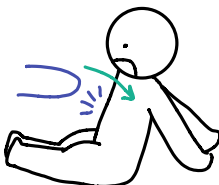
position: sitting

stimulus: suddenly tip the infant off balance to the side while in the sitting position

response: sudden extension and abduction of the arm to the side

*** relevance:** support the body for unilateral use of the opposite arm; protection from a fall

PROTECTIVE REACTION UE - BACKWARDS



onset age: 9-10 months

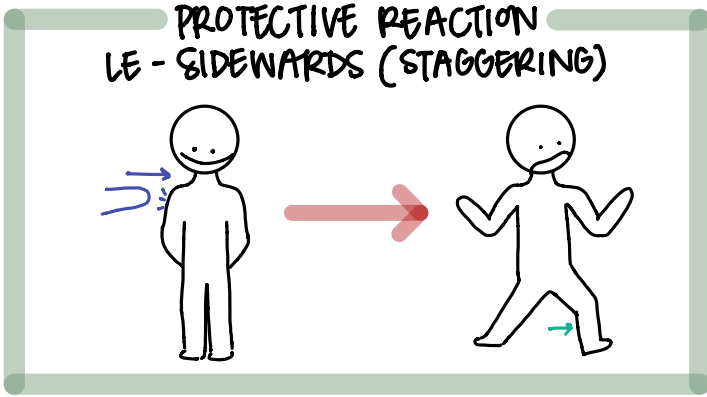
integration age: persists

position: sitting

stimulus: suddenly tip the infant off balance backwards while in the sitting position

response: backward arm extension or arm extension to one side

*** relevance:** unilateral facilitates spinal rotation; protection from fall



onset age: 15-18 months

integration age: persists

position: standing

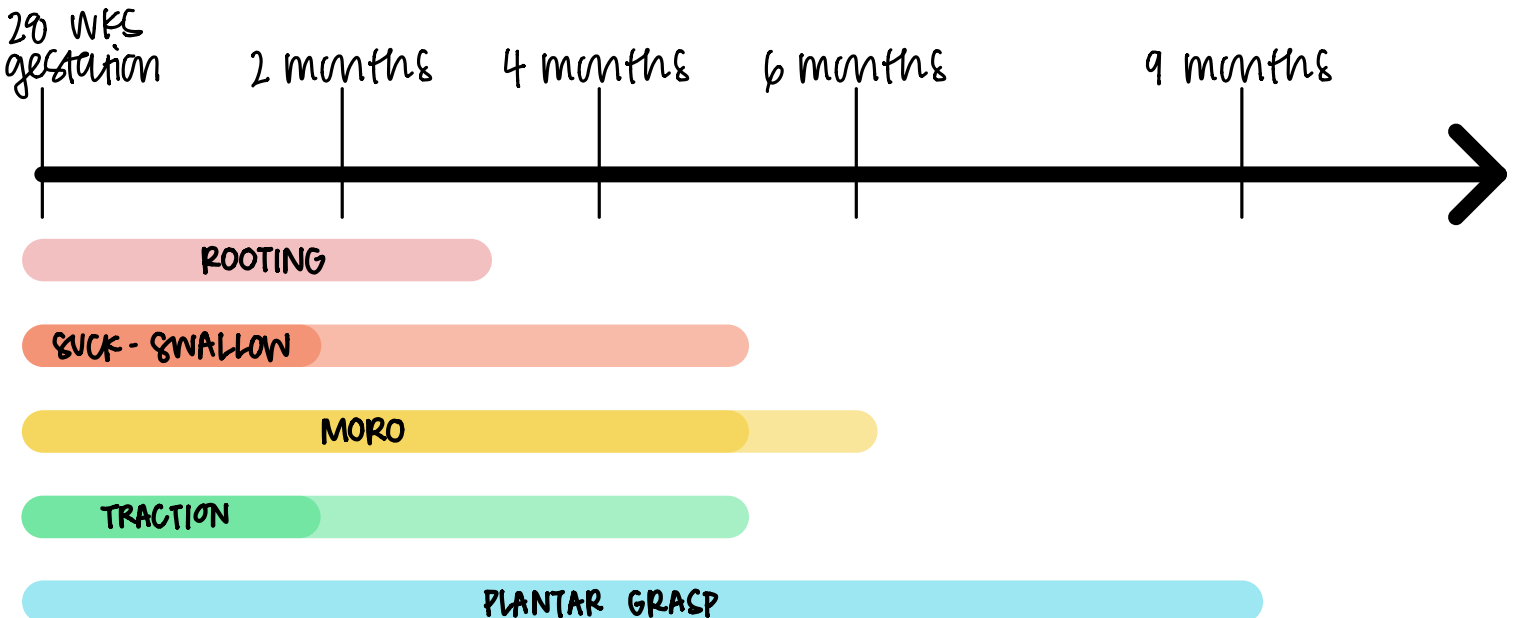
stimulus: push the child off balance

response: lateral, forward, or backward stepping depending on the direction of the push

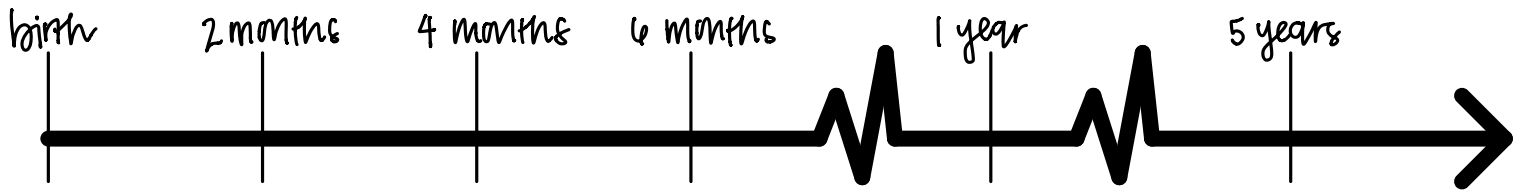
* relevance: balance and protection from falling

TIMELINE

onset age before birth



onset age after birth



PALMER GRASP

(+) SUPPORT

SPONTANEOUS STEPPING

ATNR

STNR

TLR-S

TLR-P

LABYRINTHINE HEAD RIGHTING REACTION

NECK RIGHTING

BODY RIGHTING

LANDAU

PROTECTIVE REACTION UE - FORWARD

PROTECTIVE REACTION UE - SIDEWARDS

PROTECTIVE REACTION UE - BACKWARDS

PROTECTIVE REACTION LE - SIDEWARDS (STAGGERING)