

## Current Views of Motor Development

- Early pioneers Arnold Gesell and Myrtle McGraw believed that motor skills were determined mainly by **neurological maturation of the brain**.
- Current theorists see motor development as resulting from a confluence of **neural mechanisms, perceptual skills, changes in body proportions, and the child's own motivation**.

## Influences on motor development

- **Maturation**
  - From central to peripheral
  - From head to toe
- **Environment**
  - Growth, strength, nutrition
  - Motivation
- **Practice**
  - New skills build out of prior abilities
  - Motor pathways are refined through use.

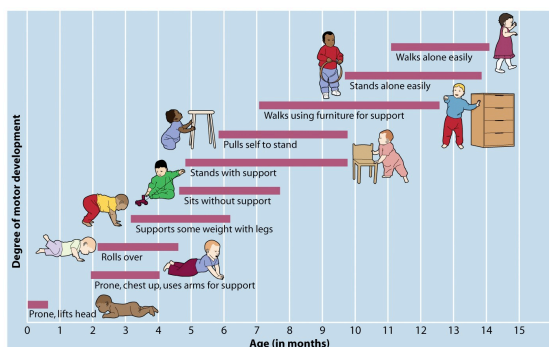
## Fetal motor development

- 6 weeks - arches and curls
- 7 weeks - "startle" movements
- 8 weeks - arms and legs
- 9 weeks - hand to face
- 10 weeks - fingers
- 27 weeks - "breathe"
- 28 weeks - sucking & swallowing
- 33 weeks - coordinate breathing with sucking and swallowing

## Motor Development

- **Reflex** - tightly organized inborn behavior that occur in response to particular stimulation:
  - Palmar Grasp (gone by 6 months)
  - Babinski or Plantar grasp (12 months)
  - Sucking (2 months)
  - Rooting (4 months)
  - Fencing or Tonic neck reflex (4 months)
  - Moro or Startle reflex (2 months)
  - Stepping reflex (2-4 months)

## Motor Milestones



## Reaching

- First 3-4 months - clumsy swiping (Pre-reaching movements).
- 3-4 months - successful (though jerky) reaching
- 7 months - smooth controlled reaching.

*(nathan's video)*

## Self-locomotion

- 6-8 months - "belly crawling", idiosyncratic self-propulsion
- 8 months - hands and knees crawling
- 13-14 months - walking
- **Role of experience**
  - Navigating slopes
  - Visual cliff