
Starting off Strong: Motor and Muscle Development from Birth to 3--Getting Ready for Sitting and Writing

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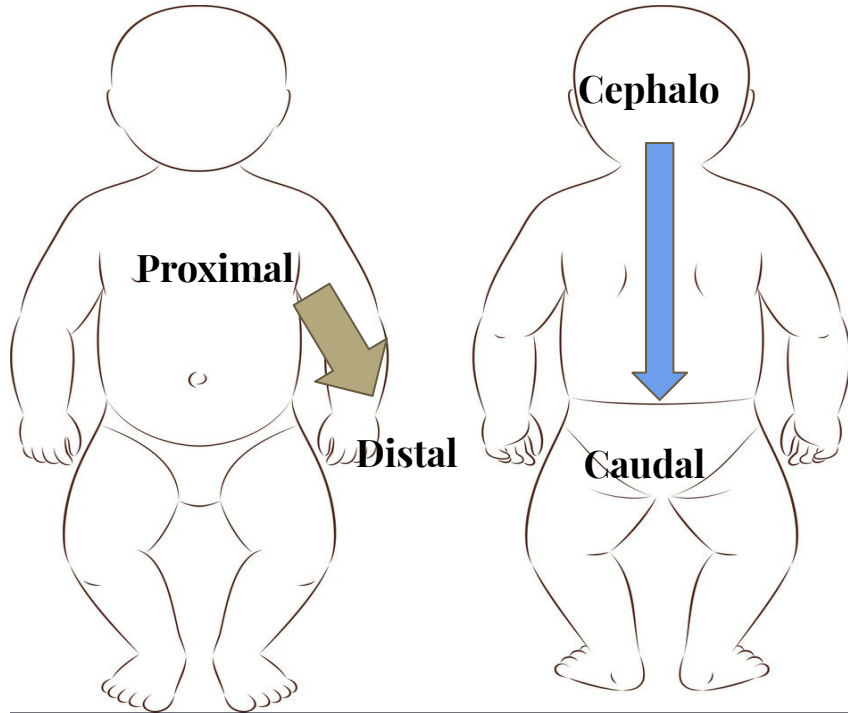
Virginia Head Start Association Conference
Zoom January 14, 2021



Objectives

- Overview of basic Developmental Patterns
- Overview of Infant Reflexes
- Overview of typical developmental milestones from birth to 3
- Implications of retained reflexes for future learning opportunities
- Exploration of toys and positions that will promote development
- Discussion
- Questions

Developmental Patterns



Development follows Specific Patterns

- Cephalo to Caudal (Cranial Caudal)- Head to Tail
- Proximal to Distal - Core to Digits
- Flexion to Extension
- Asymmetry-Symmetry-Asymmetry
- Gross to Fine (Simple to complex)
- Frontal, Sagittal, Transverse Planes
 - Flexion/ Extension,
 - Abduction/Adduction
 - Rotation

What do you think is the most important motor component to build future literacy skills in young children?

Infant Reflexes

REFLEX	DESCRIPTION	AGE OF INTEGRATION
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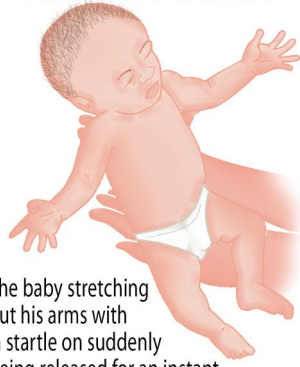
Stepping Reflex

when placed feet down on a surface- child “steps” one foot in front of the other

2 Months

Moro Reflex (startle reflex)

The Moro Reflex



The baby stretching out his arms with a startle on suddenly being released for an instant


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2 Months

Infant Reflexes

REFLEX	DESCRIPTION	AGE OF INTEGRATION
Plantar Flexion	Sole of foot is stroked from toes to heel - foot flexes down and toes curl	3 Months
Babinski's Sign	Lateral portion of foot stroked heel to toes- foot dorsiflexes and toes fan	12 months
Galant Reflex (Spinal Galant)	Spine stroked on one side, hip on same side rotates out	4-6 months
Glabellar Tap Sign	Tap the root of the nose- blinks	4-6 months

Infant Reflexes

REFLEX	DESCRIPTION	AGE OF INTEGRATION
Asymmetrical Tonic Neck Reflex (ATNR)		3-4 Months
Palmar Grasp	Stroke Palm, Infant grasps with hand	3-6 months

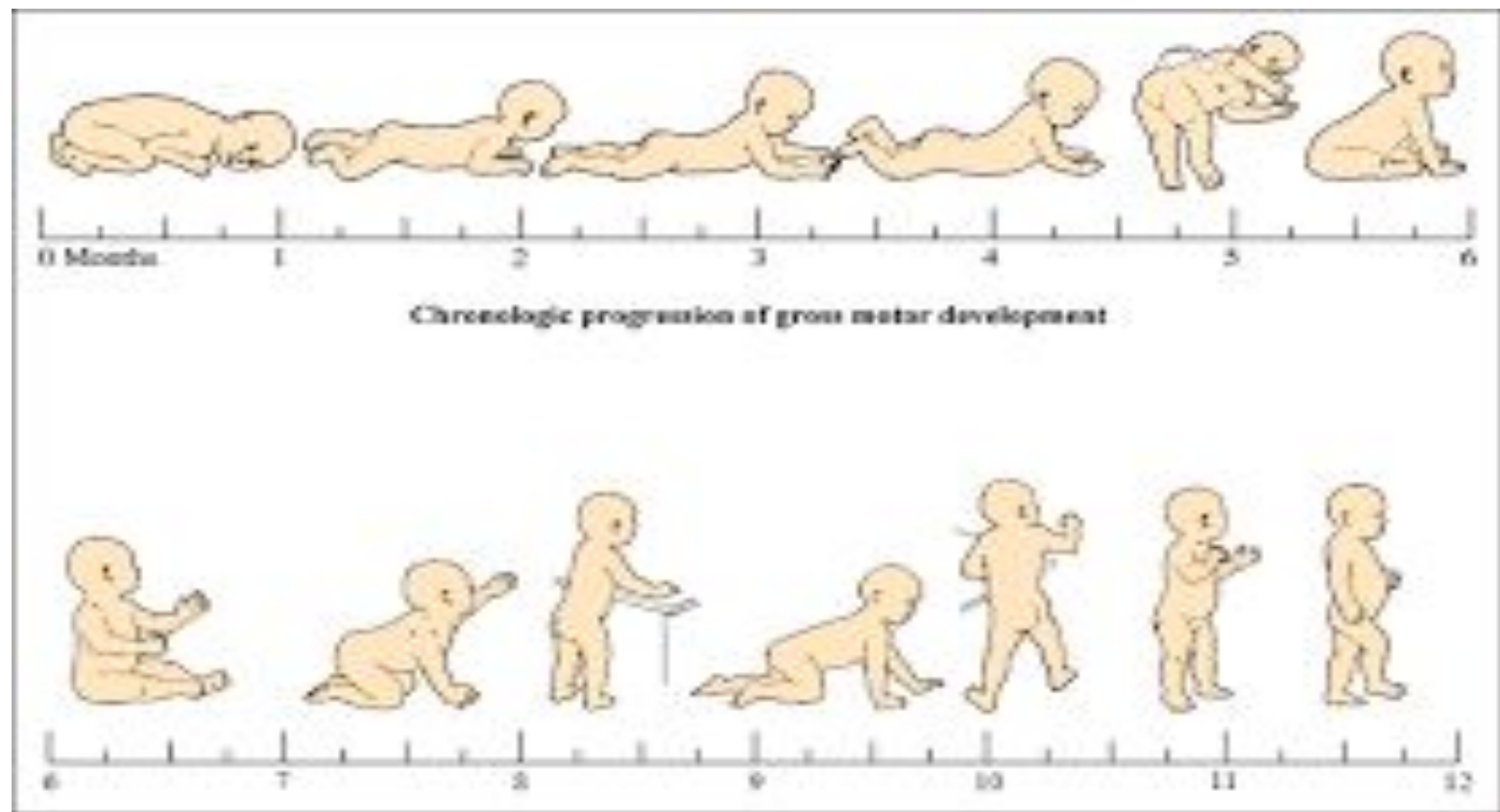
Infant Reflexes-for Feeding

REFLEX	DESCRIPTION	AGE OF INTEGRATION
Rooting Reflex	Cheek stroked-Turns head to side and opens mouth	4 Months
Snout Reflex	Light pressure of tapping on lips, mouth puckers	4 months
Sucking Reflex	Infant starts sucking when finger is placed on roof of mouth	4 months

Reflex Retention Implications

- Failure to integrate these reflexes can lead to delays in achieving motor milestones.
- In the future one might see:
 - Poor Visual Motor skills
 - Poor attention to task
 - Poor literacy skills
 - Difficulty maintaining upright sitting posture
 - Difficulty with fine motor manipulation and coordination including handwriting...
 - Anything else?

Infant Milestones



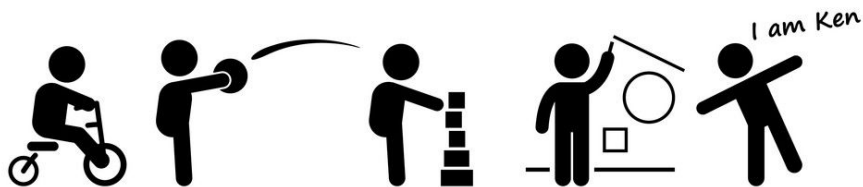
Toddler Milestones



12 - 18 months



18 - 24 months



2 - 3 years

What TOYS?

Infants

Provide opportunity to engage with sounds and textures and promote movement.



Infant toys



Rattles
Mirrors
Mobiles
Playmates

What TOYS?

Toddlers and Preschoolers

Provide opportunity to explore the environment and build motor skills.



Toddler &

Preschool Toys



Balls

Cars

Blocks

Beads

Stacking Toys

Train Sets

Musical Toys



PhotoGrid

Implications for Future Learning Skills

- What happens from birth- 3 has a lot of influence over future literacy and academic success.
 - How can you identify retained reflexes and motor delays for early intervention?
 - How can you support development throughout early childhood?
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- What next?

Feedback is always appreciated!

What is one thing you learned that you did not know before?

What is one thing you learned you will use in the future?

What is one thing we could we do better?

Contact me at
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Resources and References

[Pathways.org](https://www.pathways.org) Milestone charts and Videos- free resources to support child development

<https://www.cdc.gov/ncbddd/actearly/milestones/index.html>- Free developmental milestone app, videos-free resources