

Horses and Zebras: Out-of-the-Box Approach for Addressing Early Childhood Health Challenges

Madeleine U Shalowitz, MD, MBA, FAAP
 Developmental and Behavioral Pediatrician
 James A Hunter University Professor of Psychiatry, Behavioral Sciences and Pediatrics
 Rush University Medical Center

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 Excellence is just the beginning.

Thank you

-  **Shannon Ellison, MEd and the staff of Collaboration for Early Childhood**
-  **Allie Wainer, PhD**

Developmental Pearls

- 1 Infant motor development
- 2 Communication and Language development
- 3 Emotional Well-Being
- 4 Recap

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Developmental Pearls. In the next sections we talk about the “rules of the road” for normal development and consider what underlies atypical development.



Early Motor Development

How old is this baby?



Credit: Stephen Marks Getty Images



How old is this baby?

Full term baby



Credit: Stephen Marks Getty Images



How old is this baby?



Credit: <https://parenting.firstcry.com/articles>



How old is this baby?

1 mo old baby



Credit: <https://parenting.firstcry.com/articles>



How old is this baby?



Credit: www.babycenter.com

Ⓢ

How old is this baby?

2 mo old baby



Credit: www.babycenter.com

Ⓢ

How old is this baby?



Credit: <https://www.parentmap.com/article/>

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How old is this baby?

3 mo old baby



Credit: <https://www.parentmap.com/article/>



How old is this baby?

4 mo old baby



Credit: Shutterstock Custom



How old is this baby?

4 mo old baby



Credit: Shutterstock Custom



How old is this baby?



gettyimages
© ianlop/Getty Images



How old is this baby?
5 mo old baby



gettyimages
© ianlop/Getty Images



How old is this baby?



Credit: www.indianexpress.com/parenting



How old is this baby?

6 mo old baby



Credit: www.indianexpress.com/parenting



Pearls on Motor Development and Early Diagnosis of Later Motor Disability

Tone

- After 28 weeks gestation, an infant develops muscle tone approximately caudo-cephalad
- The development of tone is symmetric, with flexor tone predominant through the first month of life
- Further motor development depends on the increasing contribution of extensor tone, thereby decreasing the dominance of flexion, until the flexors and extensors are balanced by 4 mos of age

Pearls on Motor Development and Early Diagnosis of Later Motor Disability

Reflexes

- Deep tendon reflexes- symmetric 5-10 beat ankle clonus is normal in the newborn but should not persist beyond 1 mo of age
- Plantar response (Babinski)- an extensor response is normal for the first year of life, but should be symmetric
- Primary neonatal reflexes- the loss of some primitive reflexes (stepping, placing, grasping, asymmetric tonic neck-ATNR), must precede voluntary performance of similar movements
- Protective reflexes- parachute and lateral tilting reactions develop by 6 mos and persists, concurrent with independent sitting and crawling, and preceding walking

Pearls on Motor Development and Early Diagnosis of Later Motor Disability, cont.

Function

- Gross motor movements are present early in fetal life and antedate the evolution of tone and the primary neonatal reflexes
- Gross motor function develops antenatally, approximately following a cephalo-caudad progression (in contrast to muscle tone)
- Fine motor function begins to develop somewhat later than the first gross motor skills following the decline of the palmar grasp and the ATNR
- Gross and fine motor skills always develop symmetrically in the first year of life.
- Handedness is sometimes suggested at one year but is not firmly established until the latter part of the second year.

Typical and Atypical Development

https://youtu.be/KlyWt_qtcnM

How will you know which child is developmentally capable of sitting at 4 months and which won't be ready at 9 months?

Pearls on Motor Development and Early Diagnosis of Later Motor Disability, cont.

- Developmental expectations for a preterm infant should be adjusted for gestational age until age 2 yrs.
- Achievement of a motor milestone presupposes that the child attained competence without cost
- "without cost" means the task was approached and completed building on previously attained skills without the use of abnormal postures or undue energy expenditure
- Asymmetry is abnormal in the first year of life. Handedness is an asymmetric finding.

2 Early Communication and Language Development

Jose is a 15 mos old boy whose parents are worried that he is not talking

What would you like to know?



Jose is a 15 mos old boy whose parents are worried that he is not talking

What would you like to know?



- Birth history
- Language development so far
- Is hearing normal?
- Has hearing been tested?
- Did he babble or vocalize as baby?
- Does he make eye contact and engage visually
- Does he use gestures to make needs known
- Has he lost skills
- Is receptive language ok
- Does he point at objects to communicate
- Has an EI referral been made?
- What does Mom's gut tell her?

Typical and Atypical Development

<https://youtu.be/s0xa7y9JpSk> 4 mos

https://youtu.be/KlyWt_qtcnM 6 mos

How will you know which child is developmentally capable of sitting at 4 months and which won't be ready at 9 months?

Typical and Atypical Development

<https://youtu.be/s0xa7y9JpSk> 4 mos

https://youtu.be/KlyWt_qtcnM 6 mos

How will you know which child is developmentally capable of sitting at 4 months and which won't be ready at 9 months?

Pearls on Early Communication and Language Development

General

- Continuity and advancement of development must be clear. Although one line of development may be static for a short period of time prior to a spurt or while the infant's focus is on another aspect of development, regression is always abnormal
- An infant's experience may affect his motor performance, his cognitive and language capacity, and his emotional development. Whether that experience was time-limited or ongoing will affect the severity and prognosis of the developmental delay.
- The outlook for a child with any developmental lag depends as strongly on the support and resources of the family as the nature of the delay itself.
- Post traumatic stress disorder can affect infants and toddlers, but the signs and symptoms can be unclear
- But it's important to identify the source of any delay because the treatment is completely different

Pearls on Early Communication and Language Development, special considerations

Bilingual Household

- Exposure to native speakers in any language predicts stronger expressive language acquisition and vocabulary by age 4
- In a bilingual household of 2 native speakers, for example, one English and one Spanish, the infant acquires language at the same rate, but initially split between the two languages
- This split produces a relative language delay in each language, which resolves between ages 3 and 4 yrs.
- This means that it is not necessary to ask native speakers to speak to the child in a language in which they are not fluent
- The quantity, variety and richness of language experience, in conversation, different environments, and in reading, is much more important.

3 Emotional Well-Being

Brittney is a 4 year old referred by her asthma doctor because she is not growing well. She has uncontrolled asthma and has been in the hospital 30 times.

What would you like to know?



Brittney is a 4 year old referred by her asthma doctor because she is not growing well. She has uncontrolled asthma and has been in the hospital 30 times.

What would you like to know?



- What treatments has she had before?
- Have all those 30 times been associated with her asthma?
- Where does she live, and what are the conditions?
- Environmental exposures?
- Has the team explored parents' emotional state and their connection to Brittney?
- What does her growth chart look like? Is she following a curve?
- Are they getting adequate nutrition?
- What are Brittney's feeding habits?
- Can they move?
- How long did it take for the move to happen, dealing with a city service.
- Were they living with other people in their first apartment? Was the change in environment the only change?

Pearls on Emotional Well-Being

- We do not always appreciate how the context of our families' lives impact how they can manage chronic illnesses– their own and those in their children
- Mood disorders– anxiety and depression– have real world impacts that we can see in early childhood programs and in primary care
- We can be led down a path of more and more treatment.... And equally disturbing... of blaming a parent for being "non-compliant"
- With all of the challenges within families that may face, sometimes the "cure" is political will

4 Re-Cap

Selected References

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Zero to Three
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National Children's Traumatic Stress Network
<https://www.nctsn.org/resources/all-nctsn-resources>



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