Sitting and Stacking,
Walking and Talking:
Red Flags for Developmental Delays

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Objectives

- Examine typical developmental milestones in all domains
- Identify red flags for delayed or altered development
- List and discuss several developmental screening tools
The NICU
The NICU Experience

- Crucial period of brain growth & development
- All sensory experience results in neural activity and impacts on the developing brain’s structure
Sensory Experiences and Development

- Numerous physiologic and environmental stressors may alter the developing brain (Pickler et al., 2010)
- Environmental stressors: Excessive noise, light, handling, and painful procedures (Carbajal et al., 2008)
- Physiologic stressors include infection and other health disruptions related to the infant’s physiologic immaturity (Bhutta & Anand, 2002; Volpe, 2009).
NICU Stressors

- Multiple stressors in the NICU may affect brain size and function (Smith, et al. 2011)
- There is a decrease or lack of important positive experiences such as holding, breastfeeding, and comforting touch (Hanley, 2008; Lester et al., 2011).
Development is Regular and Predictable

- Follows a regular, structured and predictable pattern.
- More complex skills build from earlier ones.
- Every child does develop “at their own rate”. However, there is a typical developmental profile against which children can be evaluated.
Milestones

Developmental Milestones:
a set of functional skills or age-specific tasks that most children can do at a certain age range. each milestone has an age range so the actual age when a normally developing child reaches that milestone can vary quite a bit
Milestones

- Attending
- Exploring
- Cause/Effect
- Searching/Finding

- Rolling
- Sitting
- Crawling
- Walking

- Reaching
- Grasping
- Bangs together/claps
- Poking

- Responds/ Social Vocalization
- Own Name/Consonants
- Recognizes/Babbling
- Identifies/Word Approximation
Milestones

- Retrives/Problem Solves
- Relational Play
- Puzzles
- Task Completion
- Draws
- Stacks
- Maturing Grasp
- Two Hands

- Walks
- Runs
- Stairs
- Jumps
- Identifies picture/Uses single words
- One step direction/Names picture
- Identifies body parts
- Two step directions
Milestones

- Representational Play
- Matches Colors
- Imaginary Play
- Groups

- Stairs
- Jumps
- Balances
- Walks on line

- Stacking
- Connecting Blocks
- Imitates lines
- Builds block structures

- Identifies actions/Uses 2 words
- Preposition/Uses action words
- Possessives/Uses different word combinations
- Identifies Colors/Uses plurals
Red Flags
Persistent crying, sleeping and eating problems

- When infants struggle with crying, sleeping and or eating they are at significant risk for negative cognitive, behavioral and mental health outcomes.

- The risk is higher when an infant struggles in more than one area.

- The more pre-term a child, the more likely to have multiple regulatory problems.

References: Schmid, et al., 2010, 2012; Wolke, et al., 2009; Hemmi, et al., 2011; Samara, 2009
Red Flags
Communication

- Inconsistent auditory attention
- Lack of joint attention (by 20 months)
- Lack of intentional pointing (by 20 months)
Red Flags
Communication

- “Rote” non-related phrases (after 24 months) echolalia after 30 months
- Primary caregivers do not understand child’s speech by 30 months
- Unusual voice (little variation in pitch, odd intonation, irregular rhythm, unusual voice quality)
Red Flags
Motor

- Asymmetry in movement
- Persistent primitive reflexes beyond 6 months
- hyper/hypotonia
- hyper/hyporeflexia
- voluntary/dyskinetic movements
Red Flags
Motor

- Fisting beyond 4 months
- Handedness before 1 year
- Inconsistent visual attention
- Mass grasp (after 12 months)
Red Flags
Social

- Lack of appropriate eye gaze
- Lack of warm, joyful expressions
- Lack of sharing interest or enjoyment
- Lack of response to name
Red Flags
Cognition

- Decreased exploration
- Lack of interest in objects and people
- Repetitive movements with objects
- Stereotyped play patterns
- Lack of imitation
Red Flags
Sensory

- Difficulty with grooming (teeth, hair, nails)
- Picky eater
- Tactile sensitivity (or auditory or visual)
- Constant motion (climbing, jumping crashing)
- Excessive spinning or swinging
Developmental Screening

- The Early Childhood Technical Assistance Center: http://www.nectac.org/~pdfs/pubs/screening.pdf
- Professionals (Bayley)
- Parents (Ages and Stages)
- Caregivers (Developmental Indicators for the Assessment of Learning-DIAL and Speed Dial)
Questions ?