

Developmental and Behavioral Pediatrics

**Dr Jenielle Byfield, MBBS
UWI Mona**

What is Developmental and Behavioral Pediatrics?

- This is a section of Pediatric Primary Care that focuses on the early mental/cognitive, behavioral, social and physical changes that occur in kids
- These skills are monitored from birth to early adult years
- The most dramatic changes occur in the first 1-5 years of life
- Development is monitored for delays according to 4 main categories



Developmental Milestones

Categories

- In the first 5 years of life, children are assessed for appropriate milestones
- Children are assessed by four main categories-
 - **Gross Motor**- how your baby moves
 - **Fine Motor**- how your baby uses their hands
 - **Speech & Language**- how your baby communicates
 - **Adaptive & Social Skills**- how your baby interacts with others and their environment



Developmental Milestones

An Overview

Age	Gross Motor	Fine Motor	Speech & Language	Social
1 month	Lifts head during tummy time Visually fixes and follows	Tight grasp/fists	Cries, alerts to sound/startles	Soothed when comforted, Loves faces
2 months	Lifts chest during tummy time, holds head erect/centered when held	Pulls at clothing, Fists open	Smiles responsively, Coos (vowel sounds)	Recognizes familiar face
4 months	Rolls over, Supports on forearm (like a push-up!), Holds head steady	Holds objects for a short time, reaches, hands in mouth	Laughs!	Recognizes strangers
6 months	Sits unsupported, puts feet in mouth	Reaches with one hand, raking grasp, moves objects from one hand to another	Babbles! (Vowel & consonant sounds)	Stranger anxiety, object permanence starts



Developmental Milestones

An Overview

Age	Gross Motor	Fine Motor	Speech & Language	Social
9 months	Turns when seated, crawls, pull to stand, cruises on furniture	Pincer grasp starts, can hold bottle, throws toys	Non-specific 'Mama', 'dada' (usually first), Waves good-bye Understands 'no'	Loves to explore surroundings, plays simple games, reaches to be held
12 months	Stands independently, walks without support	Mature pincer grasp, marks with a crayon	Uses two words (other than mama/dada), one-step commands with gestures	Responds to name, separation anxiety
15 months	Walks without support, crawls up steps	Scribbles, stacks two blocks	Uses 4-6 words, one-step commands without gestures	Looks to caregivers for reactions (eg after child falls), uses spoon & cup
18 months	Runs, walks forward while pulling a toy	Stacks 3 blocks	Uses 7-10 words, knows body parts	uses spoon & cup, points, imitates chores, plays among other children



Developmental Milestones

An Overview

Age	Gross Motor	Fine Motor	Speech & Language	Social
24 months	Walks up & down steps without help, kicks a ball	Stacks 6 blocks, turns pages one at a time, removes clothes	Uses pronouns (I, me etc), two word sentences, knows about 50 words	Parallel play
3 years	Pedals a tricycle, alternates feet up steps	Can copy a circle, unbuttons, dries hands	Knows 250 words, three word sentences	Knows name, age, gender, participates in group play, shares
4 years	Can hops, skip, alternates feet down steps	Can copy a square, buttons cloths, scissors, catches ball	Asks questions, recites songs, knows colors	Tells stories, plays cooperatively
5 years	Jumps over low obstacles	Can copy a triangle, ties shoes, spreads butter on bread	Writes first name, asks word meanings	Competitive games (follows rules), likes to be helpful (eg chores)



Developmental Milestones

Red flags

- Developmental milestones are on a spectrum
- Most milestones occur at an 'age range'
 - Eg Walking between 15-18 months
- *Red flags occur when child has not attained an expected skill, by a certain age*

Developmental Milestones

Red flags

- Loss of any skill child was able to do prior
- Hearing loss
- Inability to visually fix and follow, or confirmed visual impairment
- Floppy baby
- Asymmetrical movement/ limb preferences
- Head circumference crossing 2 percentiles (gain in size or static growth)

Developmental Delay

Causes

- Lack of stimulation
- Illnesses
 - Genetic Syndromes
 - Acquired/ Repetitive
- Trauma
 - Birth Trauma
 - Child abuse
- Neglect

Specific Developmental Delays

Definition

- Defined as failure to attain age specific milestones in only one area of development
 - Gross/Fine Motor
 - Speech/Language
 - Cognitive
 - Social
- Can be transient
- Improved with early intervention

Specific Developmental Delays

Specific Disorders

- Intellectual Disability
- Communication Disorders
 - Receptive/expressive
 - Speech Sound Disorders
 - Childhood-Onset Fluency Disorder/ Stuttering
- Autism Spectrum Disorders
- ADHD
- Learning Disabilities
- Cerebral Palsy

Autism Spectrum Disorder

DSM V

- Formerly included in the spectrum of Pervasive Developmental Disorders (DSM- IV)
 - Also included Asperger's Disorder, Rett's Disorder, Childhood Disintegrative Disorder and Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS).
- A common neurodevelopmental disorder (1 in 59 children in the USA)
- Core problems seen in social/communication issues, and repetitive patterns of behavior

Autism Spectrum Disorder

DSM V

- Early screening and intervention improves quality of functioning
- <https://publications.aap.org/pediatrics/article/145/1/e20193447/36917/Identification-Evaluation-and-Management-of>

Intellectual Disability

Definition

- A neurodevelopmental disorder
- Presents in the first 18 years of life but severity usually more pronounced if onset is in the developmental period of age 0-5 years
- Often presents with delayed milestones
- Affects a child's ability to learn, function socially and independently
- Mild, moderate, severe, profound

Global Developmental Delay

Definition

- Occurs in Children ages 0-5 years
- Presenting with delays in 2 or more developmental categories
 - Gross/Fine Motor
 - Speech/Language
 - Cognitive
 - Social
- Can be transient
- If persists beyond age 5 years- Intellectual Disability

Global Developmental Delay

- Requires intervention
 - Stimulation! Both at home and by a professional
 - Early recognition and treatment improves outcomes

Expected Behavioral Issues

What's 'normal'?

- Not all 'issues' in early infancy and childhood are red flags
- Every child develops at their own pace (even siblings!)
- Common early issues
 - *Colic (1-3 months)*
 - *Night Feeding/awakening (3-4 months)*
 - *Stranger/Separation Anxiety (9 months)*
 - *Aggression, biting, hitting etc (12 months)*
 - *Temper Tantrums (18 months)*
 - *Nightmares (3 years)*

Evaluating Your Child

Tools and Resources

- Genetic Testing
- Growth parameters (weight, length/height, head circumference)
- Hearing and vision screening
- Various questionnaires
 - Ages and Stages
 - Parents' Evaluation of Developmental Status (PEDS)
 - Modified Checklist for Autism in Toddlers (MCHAT)
 - Childhood Autism Screening Test

What can parents/ caregivers do?

- Speak to your child's Pediatrician about any concerns
- Work closely with providers- the team approach!

Developmental Services

It's a Team Approach!

- Early Intervention Program (varies by state)
- <https://www.parentcenterhub.org/ei-overview/>

References

- <https://www.aap.org/en/community/aap-sections/developmental-and-behavioral-pediatrics/>
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- <https://www.parentcenterhub.org/ei-overview/>
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Thank You!