Developmental Delay: Background, Identification, and Treatment

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Why do I need to learn a pediatric subspecialty?

- Most preventative pediatrics is focused on preserving normal brain development
  - Prematurity prevention/Neonatal Fetal Medicine
  - Neonate PKU screen
  - Bilirubin checks
  - Suspected sepsis work-up’s
  - Lead screening
  - Anemia screening
  - Growth/FDC/Nutrition monitoring
- Preventing developmental delays is a primary focus in most of routine general pediatrics visits
- Yet not much energy is spent on identifying development delay clinically or what to do when a delay is suspected

Learning Objectives

- Developmental Delay is common.
  - Why everyone should be using a standardized screening tool
- Early Brain Development
  - Fetal Development Review
  - Malformations vs. Insults vs. Lack of environmental stimulation
  - Intellectual/Cognitive potential
- “More-Bang-for-your-Buck” Milestones: Opportunity to improve the lives and future learning of your patients
- When & Where to refer for Treatment

No Disclosures

- I have no financial relationship or interest with any proprietary entity producing health care goods or services related to the content of this discussion.
- I do not intend to discuss unapproved or investigative use of commercial products or devices.

History of Dev-Behavioral Pediatrics

- 1973 Section 504 of Rehabilitation Act
- 1975 Education for All Handicapped Children Act – 1986 Services for Children aged 0-3yo added
- 1982 Society for Dev-Behavioral Peds
- 1985 Journal of Dev-Behavioral Peds
- 1986 3yr Fellowship for Dev-Behavioral Peds
- 1990 Law Renamed: Individuals with Disabilities in Education Act (IDEA)
- 1997: Dev-Behavioral Peds required pediatric rotation
- 1999: Accredited Pediatric Subspecialty

Will I have patients with chronic developmental needs?

- Developmental Delay (not meeting milestones)
  - 1 in 5 pediatric patients
- ADHD
  - 1 in 10 pediatric patients
- Learning Disability
  - 1 in 25 pediatric patients
- Autism
  - 1 in 86 pediatric patients

Developmental Pediatricians are one of the most rare pediatric subspecialties. Demand outweighs Supply. We focus on a high risk populations (Premie, CHD, Hydrocephalus, HIE, etc.)
Intrauterine Brain Development

• Brain grows and changes from 3wks gestation-6yo
  – 3wks to 7wks gestation = Major congenital problems
  – 8wks to 20wks gestation = Functional defects
  – 20wks to 38wks gestation = Brain size & complexity
  – Birth through 5years = Cognitive advancement through appropriate developmental stimulation
  • 80% of Brain Development is completed by 3yo
  • 90% of Brain Development is completed by 5yo
  • 95% of Brain Development is completed by 8yo

What Clinicians Should Know

• The belief that a child will “grow out of it” is outdated
• A neglected delay can steal a child’s IQ foundation, impacting school performance, graduation rates, future employment & income potential, dependence on government financial support, and cyclic poverty (not to mention self-esteem, mental health)
• However, if detected & treated early, the same child could reach their full potential, which is what every child deserves.
• Metacognition is correlated with IQ

Patient Population

Normal Distribution of IQ

Need an Example? Meet Byron

• Byron presented at 2y1mo old
  – Father died when he was 2mo old
  – Mother used drugs while pregnant with him
  – Mother abandoned him by the age of 2yo
  – Paternal Grandmother, Maria, became caregiver
    • He still used a bottle, never been to dentist, due for general pediatric preventative care.

Byron’s Story

• Behavior was exceptionally difficult & aggressive
  – Kicked out of day care
• GM lost her job
• GM lost her home
• GM had no car
• GM only speaks Spanish
• Byron and his GM were taken in by a Friend
Dev Treatments Obtained

- Baseline Developmental Assessment at 2y1m (IQ=61)
- Comprehensive early childhood intervention started at 2y3m
- Updated Primary Pediatric & Dental care & Audiology
- Early Head Start enrolled at 2y5m old
- Developmental Assessment for progress with intervention 7mo later at 2y8mo old (IQ=75)
  - He did not qualify for transition of continued services through his local school district at 3yo. All services ceased.
- Developmental/Behavioral/Parenting support
- Free community developmental stimulation opportunities

Byron Today

- Continues to be up to date with Physical exams, vaccinations, & dental visits
- Passed both hearing and vision assessments
- Continues to attend Head Start preschool (No IDEA services since 3yo)
- Exceptional developmental enrichment provided at home
- Significantly improved in behavior and compliance which supports learning in school
- Developmental Assessment after 7mo without IDEA services at 3y7mo old (IQ=82)
- Byron had a 4th Birthday and Grandma was granted legal guardianship.

Developmental Delay is Common

- Dev delays can lead to dev disorders if not addressed early
- Dev disorders affect learning during school age
- 17% of all children in US will have a developmental disorder, yet only 50% are identified by primary care providers by 5yo.
  - Identification improves to 75% using a standardized screening tool (like ASQ or PEDS)
  - Texas Medicaid requires an ASQ to authorize therapy

ASQ Scoring Sheet

So What Do I Have to Know?

1. Prioritize the Child Development piece as an important part of a child’s regular check-up
   - Don’t skip it! Do it yourself.
   - Don’t depend on the parents to report concerns. Be proactive.
   - Use standardized screening tools AND ask the right questions!!!!

2. Know normal developmental milestones
   - in order to identify the kids who are delayed
   - Focus on Early Language milestones clinically, to catch delays <3yo

3. Know what to do when you find a delay
   - How to access free services in your area. Have a plan ready
   - Obtaining intervention involves extensive paperwork
   - Anticipate time requirements and frequent needs for follow-up

Developmental Milestones to Know

- Infant Milestones
  - Focus on motor milestones until 12mo old

- Expressive Language Milestones to Know
  - By 12mo needs 3 words
  - By 18mo needs 10 words, Points
  - By 24mo needs 2-word phrases (50 words)
  - By 3yrs: answers Who, What, Where, How?
  - By 4yrs: 100% intelligible to strangers, correct grammar
## What Do I Do When I Find a Delay?

- **Screen Hearing and Vision**
- **Basic Free Federal & State services available**
  - ECI; Early Childhood Intervention (0-35mo)
    - [https://citysearch.hhsc.state.tx.us/](https://citysearch.hhsc.state.tx.us/)
  - Local Public School District (3y-18yo)
    - [https://nces.ed.gov/ccd/schoolsearch/](https://nces.ed.gov/ccd/schoolsearch/)
  - Head Start (3-5y) & Early Head Start (0-3y) Federal Preschool
- **Additional Private Therapy via Insurance**
  - [https://www.sqworl.com/or57ik](https://www.sqworl.com/or57ik) (Links to many therapy companies in the San Antonio area)

## Get Parents On Board

- **Family education, support, follow-up.**
- **Educate families** on the concept of early brain development, effectiveness of early intervention & in-home stimulation, and potential long term impact.
- **Developmental Stimulation Parent Handouts**
  - [http://www.asha.org/public/speech/development/chart.htm](http://www.asha.org/public/speech/development/chart.htm)

## Am I Doing A Good Job?

- **Think about how many patients you see daily...**
  - At least 1 in 5 pediatric patients will have a delay
  - If you are not working-up developmental delays at this rate, than you are missing your chance to positively impact the lives of your patients forever
  - A Developmental Pediatrician can help YOU impact the future of your community one family at a time
    - Limited access...Long wait times (2-8mo)
    - Practice these basics on your own
    - We are here to help with the tough, complicated stuff
    - Refer to SAPDS via LeadingReach.com

## Am I Doing A Good Job?

- Never doubt that a small group of thoughtful, committed, citizens can change the world. Indeed, it is the only thing that ever has.
  - *Margaret Mead*