Hyperinsulinism and Child Development

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Who is at Risk for Concerns

- Children with family history of delays and learning differences
- Genetic Syndromes
- Complex medical conditions. Research supports that children with HI are at risk.
Message of the day

• Early detection leads to early intervention and improved outcomes

• Trust your own inner voice if you have concerns about your child’s development
How do I assess if my child is meeting developmental goals

• Development is often viewed in terms of language, gross motor, fine motor and cognitive skills

• There is a range of when these skills will be attained
Milestones
Newborn

Gross Motor:
- Lifts head from parent’s shoulder

Visual Motor:
- Blinks in reaction to bright light
- Follows object to midline by 2-4 wks

Social/Communication:
- Eye contact
- Responds to sound
* Social smile—2-6 weeks
1-2 months

Gross Motor:
• Prone- chin up → chest up
• Can hold it erect for brief period of time

Fine Motor
• Grasps objects

Social/Communication
• Social smile
• Vocalization, coos
• Different cries for different needs

Problem Solving
• Visual preference for human face
3-4 months

Gross Motor
• Raises body up on hands with head up
• Rolls: prone- supine

Fine Motor
• Unfisted > 50%
• Hands to midline

Social/Communication
• Laugh out loud
• Squeals
• Looks for sound; orients to a voice

Problem Solving
• Reach, bat for objects
5-6 months

Gross Motor
- Roll: supine to prone
- Parachute
- Sit propped

Fine Motor
- Transfers objects between hands
- Unfisted 100%
- Radial rake

Social/Communication
- Makes “raspberry sounds”
- Closer to 6 months, babble
- Responds to human voices by turning head and eyes

Problem Solving
- Grasp one block
- Smile and touch mirror
By 6 months

Key Social/Communication Points

• Personality develops!
• Very social
• Babbles, laughs, squeals
• Separation anxiety
7 months

Gross Motor
- Sits unsupported
- Lateral protection
- Belly crawl

Problem Solving
- Obtains 2 blocks
- Pegboard- 2 out

Social/Communication:
- Echolalia (7-30 months)
- Shy with strangers, prefers parent
- Separation anxiety (6-10 months)
8-9 months

Gross Motor
- Crawl (on all fours)
- Pull to stand → cruise
- Sits well

Fine Motor
- Obtain pellet
- Immature pincer
- Finger feed

Social/Communication
- Babble
- Sound imitation
- Gesture games
- Waves “bye-bye”

Problem Solving:
- Inspect bell → at 9 months, ring bell
- Pulls string to get ring
- Bangs objects
10-11 months

Gross Motor
• Walk w/ 2 hand help → 1 hand

Fine Motor
• Mature pincer

Social/Communication
• Recognizes name when called
• Connects “dada” or “mama” with person
• First word ~ 11 months

Problem Solving
• Object permanence (searches)
• Uncover toy

http://www.youtube.com/watch?v=OfT00hQ&feature=related
12 months

Gross Motor
- Walk independently
- Posterior protective reaction (12-18 mo)

Fine Motor
- Release a cube in a cup
- May be appropriate to have preferred hand

Communication
- Follows a command with a gesture
- Will look at 2 pictures

Problem Solving
- Cooperates with dressing
14-15 months

Gross Motor
• Stand without pulling up
• Climb furniture
• Crawl upstairs

Fine Motor
• Solitary play
• Spoon feeding
• Cup drinking

Social/Communication
• Follow command without gesture
• Knows 4-6 words
• Knows at least 1 body part
• Throws objects in play
• Points to pictures in a book

Problem Solving
• Marks with crayon
• Tower 2 cubes
18 months

Gross Motor
• Running
• Walk up stairs with held hand
• Push/pull large object
• Throws ball while standing
• Sits in small chair

Fine Motor
• Spontaneous scribble

Communication
• 10-25 words
• Mature jargon
• Knows 3 body parts
• Pretend play!

Problem Solving
• Likes to be with other children
• Hides and finds objects
24 months

Gross Motor
• Kicks ball
• Walks up and down stairs

Fine Motor
• Spoon and fork use
• Toilet training may be appropriate

Social
• PRETEND play!
• Parallel play
• Imitates other children
• Listens to stories

Communication
• 2-word phrases
• Follow 2 step command
• Knows more than 50 words
Play is critical

- By 12-24 months, may use placeholders
- 2 year olds initiate play
- Basic pretend play—feed baby, etc.
3 year olds

Gross Motor
• Up stairs, alternate feet
• Heel and toe walk
• Pedal tricycle

Fine Motor
• Independently eat
• Cut with scissors
• String small beads
• Buttons

Social/Communication
• Know age
• Boy/girl
• First and last name
• 3 word sentences
• Concepts emerge- big/small, long/short
• Group play!

Visual Motor
• Draw circle
• Draw cross (3.5 years)
• Cube bridge
4 year olds

Gross Motor
- Descend stairs alternating feet
- Hop 1 foot
- Skip (4.5 yrs)

Adaptive
- Wash face and hands
- Zippers
- Use straw
- Dresses self

Language
- Know 4 colors
- Count
- At least 3 prepositions
- Parents understand their speech

Visual Motor
- Draw square
- Block designs
Questions?
Where Do I Turn:

- Early Intervention referral
- Talk with your PCP
- Developmental pediatrician
- Neurologist
- Speech evaluation
- Occupational therapy evaluation
- Physical therapy evaluation
What Services Might My Child Need

• Speech therapy: expressive, receptive and feeding skills
• OT: fine motor, motor planning, core strengthening
• Physical therapy: gross motor skills
• Special instructor: cognitive and all other skills
• When my child turns 3 years old these services may be moved to a preschool setting
How do I know assess if this is the right level of intervention

• Slow and steady progress is being made
• My child is meeting the goals set by the team
• New goals are being set periodically
• If progress is not being made you can request reassessment and to change the level and type of intervention
• We want preschoolers to be ready for challenges of Kindergarten
School Age Concerns

• Evaluations for school readiness are made in preschool before moving to Kindergarten
• The team should do a comprehensive evaluation of the areas of concern
• Services can continue in K and beyond if indicated
• The focus moves at this time to cognitive development and the possibility of learning style differences
Who is at risk for learning differences

• Family history of learning differences
• ADD/ADHD (maybe 20 to 30%)
• Syndrome: Williams, 22Q, Autism Spectrum Disorders
• Prematurity/LBW
• Insult to the developing brain: Drugs, alcohol, CNS radiation, head trauma, CNS infection, lead poisoning
• Speech and Language Delays
• Fine and Gross Motor delays
Signs of Learning Difficulties

• Increased learning effort: school is boring, school anxiety, class clown behavior, long time to complete assignments, fights over homework
• School distress: failing, absent, detentions, disengagement, aggression
• School failure: retention, expulsion dropping out
• Having trouble learning letters, poor memory, forgetful, trouble organizing, poor quality work or slow to finish, misses the big picture
More Signs

• Problems expressing themselves or finding the right words
• Learning new words
• Understanding the question
• Following directions
• Reading or comprehending stories
• Learning words to songs
• Learning letters or numbers
• Identify sounds
• Spelling
• Learning times tables
• Telling times
• Writing
Points to Ponder

• Poor performance and behavior is a sign that a problem exist.
• If they could do it they would do it
• 5 to 10 % of the pediatric population has a learning difference. Some studies say 15%
• Defined as : discrepancy between ability and performance. The government defines specific learning disability as : a problem understanding or using the spoken or written language which manifest itself in an impaired ability to think, speak, write, spell or do math.
Categories of Learning Differences

• Reading disorder: part or all of the reading process, fluency, decoding, reading rate and reading comprehension. This makes up 70 to 80% of children with LD

• Writing: includes handwriting, spelling, organization of ideas, and composition. Dysgraphia is an over-arching term.

• Math: dyscalculia includes math concepts, math facts, organizing numbers and how problems are organized on a page

• Nonverbal learning disorders
What to do if you suspect problems

• Psycho educational testing will be done if parents place a request in writing to the school.
  – District has 60 to 90 days to complete the testing
  – Expensive testing and school may try to defer
  – Should include at a minimum potential (IQ) and current levels of performance
  – Speech and occupational therapy evaluation
Evaluation/Testing

• Testing can also be done outside of the district by a private school psychologist or neuropsychologist.
  – They can be very costly and not all services covered by insurance.
  – Your goal will decide who you choose to do the testing.
  – Neuropsychologist: have more training and focus on cognition or how we learn. They evaluate how we think, remember and learn through a series of standardized tests.
Next step

• Once the difficulties are discovered a plan must be developed by the school and family. Family may need an advocate or attorney to help with the process
• IEP: legal document
• 504
• ST: focus on language development to help with reading, writing
• OT: fine motor skills, writing
• Social skills
• Attention and other behavior concerns
Academic Interventions

• Reading: decoding: **Orton Gillingham Multisensory Phonics Reading Program**, Wilson Method, Word Detectives and more

• Reading Comprehension: Linda Mood Bell, Verbalize and Visualize

• Math: makes sure the program is best suited for the child’s difficulty. On size does not fit all

• Question: what is the research which proves this works for my learning style, how and when will we test it’s effectiveness for my child and what will you do if progress is not made
Research says best instruction

- In this study the authors defined "direct instruction" as including at least 4 of the following components in a lesson:
  - breaking down a task into small steps,
  - administering probes,
  - administering feedback repeatedly,
  - providing pictorial or diagram presentations,
  - allowing for independent practice and individually paced instruction,
  - breaking instruction into simpler phases,
  - instructing in a small group,
  - modeling of skills by the teacher,
  - providing set materials at a rapid pace,
  - providing individual child instruction,
  - teacher asking questions, and
  - teacher presenting new (novel) materials. (pp. 283-284)
Strategies

- *Strategy instruction* was defined to include at least 3 of the following elements:
- elaborate explanations (i.e. systematic explanations, elaborations, and/or plans to direct task performance),
- modeling from teachers (verbal modeling, questioning, demonstration),
- reminders to use certain strategies or procedures (i.e. cues to use taught strategies, tactics, or procedures),
- step-by-step prompts or multiprocess instructions,
- dialogue (between teacher and student),
- questions from teachers, and
- provision by teacher of necessary assistance only. (p. 284)
3 most effective components

• Control task difficulty: the teacher provides assistance, scaffolds as needed and moves the child from easy to difficult tasks

• Small interactive groups of 5 or less

• Structured questions and responses: the teacher or students may direct the questions, students asked to summarize
  – Students with LD perform closer to peers when they are taught strategies to use when approaching a task
Strategies

• Students with LD perform closer to peers when they are taught strategies to use when approaching a task
• They must have cognitive strategies: how I learn
• Must have Meta cognitive strategies: how will I approach this task and what assistance might I need
Interventions: might I need to ask for in the classroom

• How will my child’s learning needs be met in all subject areas. Will support occur in the classroom or in a smaller special education setting.

• Homework accommodations: modified assignments

• Testing accommodations

• Use of technology: computers that read text, books on tape, word processors, computers, talking calculators, computer programs, programs that type when you speak, graphic organizers

• Class note takers, scribes, readers, proofreaders
Resources for families

- International Dyslexia Association
- LD Online
- Learning Disabilities Association of America
- National Center for Learning Disabilities
- PA Branch of the International Dyslexia Assoc.
- Learning Ally(formerly Reading for the Blind and Dyslexia)
- Schwab Learning.org