ADHD and Learning Disabilities

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Disclosures

I have no relationships with commercial interests to disclose
• He can’t keep his hands to himself, he has problems with listening, learning and comprehending (ADHD and intellectual disability)
• He is impulsive, makes careless errors and has some comprehension issues (ADHD and low average cognitive abilities)
• He is good with math but can’t focus (ADHD and dyslexia)
• Mom: He is not interested in learning, he is being bullied. School: he is not motivated, has hard time remembering material (Multiple learning disabilities)
• School: she can’t focus, stares into space, sits doing nothing, doesn’t answer questions when asked (ADHD and cognitive disorder (low verbal), dyslexia, mixed expressive receptive language disorder)
• School: extreme hyperactivity, inability to concentrate (ADHD and nonverbal learning disability, specific learning disabilities in reading, writing and math)
• School: math can be a struggle, refuses to do work, can’t control body movements, disrespectful, doesn’t follow directions (ADHD and nonverbal learning disability)
Why is My Child Going in Circles?
ADHD

• Oars work OK but can’t row straight because:
  • Too inattentive
  • Too distracted
  • Too hyperactive

• Best treatment is medication and CBT or PCIT and exercise
Learning Disabilities

- Oars are different sizes
- May be trying hard
- Can look like ADHD
- Identify problems and intervene
- Meds will not work
- Can be both ADHD and LD…
Behavior Problems

- May be ODD
- May be frustration with learning issues
- Other stresses

- Best treatment is behavioral
Anxiety/Depression/Other

- Too anxious or depressed to row
- May be learning related or other
- Best treatment is therapy, or combination therapy and antidepressant
- Bipolar is *not* getting angry fast
- Tics
What is ADHD

- Usually diagnosed in childhood
- Clinical diagnosis
- Other things can look like ADHD
- Only about 15% grow completely out of it
A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development:

- Inattention and/or hyperactivity/impulsivity
- Several years of sx before age 12
- Multiple settings
- Negative impact
- Not because of other mental disorder

- Combined
- Inattentive
- Hyperactive/impulsive
- Severity based on impairment
Inattention

Need 6 or more “Often”
- Careless mistakes
- Hard time paying attention even with play
- Doesn’t listen
- Doesn’t follow through
- Disorganized
- Loses things
- Easily distracted
- Forgetful in daily activities

- Sx at least 6 months
- Not developmentally appropriate
- Negative impact
- More than one setting
Hyperactivity/Impulsivity

Need 6 or more “Often”
- Fidgets or squirms
- Can’t stay in seat
- Runs around or climbs excessively
- Can’t play quietly
- Driven by a motor
- Talks excessively
- Blurts
- Hard time waiting in line or for turn
- Interrupts, intrudes

- Sx at least 6 months
- Not developmentally appropriate
- Negative impact
- More than one setting
ADHD

- Probably about 5% children
- 2.5% adults
- Focusing on electronics and fighting with sibs don’t count
- No biomarker
ADHD and Disability

- Comorbidity is the rule
- Autism spectrum disorder
- Dyslexia
- Impaired motor coordination
- Neurodevelopmental disability
- Late Birthday
ADHD

• Bad Rap: Not really ADHD
  – Not enough physical activity
  – Too much screen time
  – Too much violent video
  – Poor diet
  – Sleep apnea
  – Learning problems
  – Anxiety (or are they anxious because they can’t focus?)
  – Abuse
  – Poor behavior that works
  – Parents as friends
  – Parents on devices
  – Late summer birthday?
ADHD Diagnosis

- Can be genetic
- Prematurity, multiple birth, NICU
- Maternal smoking
- No current blood test or x-ray
- Usually noticed by age 7
- Problems for at least 6 months
- Behavior inappropriate for developmental age
- More than one setting
- Causing problem with living/school
- Not better explained by something else
Adult ADHD

- Disorganized
- Lose things (keys, cell phone)
- Doesn’t pay bills on time
- Fender benders
- Starts projects but can’t finish
- Late to work
- Job hopping
- Keeps putting things off
- Need caffeine
- Easily frustrated
- Problems getting along with others (boss/coworkers)
- (getting to appointments?)
Diagnosis and Follow Up

- CBCL
- Conner’s
- Vanderbilt

**Diagnosis and Follow Up**

<table>
<thead>
<tr>
<th>Teacher's Name:</th>
<th>Class Time:</th>
<th>Class Name/Period:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Today's Date:** ____________________  **Child's Name:** ____________________  **Date:** ____________________

**Directions:** Each rating should be considered in the context of what is appropriate for the age of the child you are rating and should reflect that child's behavior since the beginning of the school year. Please indicate the number of weeks or months you have been able to evaluate the behaviors.

**Is this evaluation based on a time when the child □ was on medication □ was not on medication □ not sure?**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fails to give attention to details or makes careless mistakes in schoolwork</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Has difficulty sustaining attention to tasks or activities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Does not seem to listen when spoken to directly</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Does not follow through on instructions and fails to finish schoolwork (not due to oppositional behavior or failure to understand)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Has difficulty organizing tasks and activities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Loses things necessary for tasks or activities (school assignments, pencils, or books)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Is easily distracted by extraneous stimuli</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Is forgetful in daily activities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

This checklist asks you to provide information about your child’s behavior. Below is a list of items that describe common behavior problems in children. Some of the items may be true of your child and some may not. Please read each statement and decide how well it describes your child during the past two months. Then use the dropdown menu to select the number that best indicates how true each item is of your child.

<table>
<thead>
<tr>
<th>0 = almost never or not at all</th>
<th>1 = sometimes or just a little</th>
<th>2 = often or pretty much</th>
<th>3 = very often or very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Disobedient; won’t mind or follow rules</td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>2. Argues or quarrels</td>
<td>0</td>
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<tr>
<td>3. Uncooperative; won’t help or work together with others</td>
<td>0</td>
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<tr>
<td>4. Defies authority or talks back</td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>5. Mean or cruel to others</td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>6. Threatens, bullies, or picks on other children</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Starts fights</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Hits, bites, or throws things at people</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. IMPROVEMENT IN BEHAVIOR</td>
<td>0</td>
<td></td>
<td></td>
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</tbody>
</table>
ADHD Treatment

• Parent training/PCIT
• Medications
  – Stimulants
  – Alpha-2 agonists (blood pressure pills)
  – Atomoxetine
• Cognitive Therapy
  – Apps (Calm, HeadSpace, Pacifica)
• Exercise
• Fish oil
• Red dye (<5%)
• Healthy eating
• Decreased screen time
• Probiotics
• Sugar does NOT matter
Comorbidities

- Moderate ID may have more ADR than benefit from stimulants
- Stimulants do not increase seizures
- Seizure do can be a/w language and cognitive disorders
- Can be used in ASD for ADHD symptoms
- Genetic disorders
ADHD Treatment Stimulants

- **Methylphenidate**
  - Ritalin
  - Methylin
  - Metadate
  - Focalin
  - Concerta
  - Daytrana
  - Quillivant
  - Quillichew
  - Aptensio
  - Cotempla

- **Dextroamphetamine**
  - Dexedrine
  - Adderall
  - Adderall XR
  - Vyvanse
  - Dyanavel
  - Adzenys
  - Mydayis
  - Procentra
  - Evekeo
  - Zenzedi
Stimulants

- Bad reactions
  - Headache or stomach ache (1-2 weeks)
  - Drama Queen
  - Appetite down
    - Start breakfast
    - Big bedtime snack
  - Poor sleep (slight delay)
  - Zombie (Not goal!!)
- Cardiac
  - Assess risk
- Recommended dose/push it?
- Stimulants do NOT need to be given daily
Alpha 2 agonists

- Guanfacine
  - Tenex
  - Intuniv/guanfacine ER
- Clonidine
  - Catapress
  - Kapvay
- Blood Pressure
  - Low BP/dizziness (rare)
  - Dry mouth
  - Vivid dreams
  - Weight gain
  - Sedation
- Good for tics (Clonidine)
- Start at night
- DAILY
Strattera/Atomoxetine

- Not a stimulant
- Side effects are the same
- May be helpful for kids who are a problem in the morning
- Can affect the liver/jaundice
- Can combine with other meds
- Can be given in the pm or BID
- 1.2 mg/kg/day
- DAILY
Variations

- Long acting BID
- Try short acting instead of long acting
- ? Dinky dose before bedtime
- Blind trial at school
- Strattera can be given BID
- Jiggle 2nd dose of guanfacine
- Younger may do better with guanfacine first line
- Stay in the family for PM dosing
  - Concerta-Ritalin
  - Vyvanse-Adderall
Learning problems

- A brain problem that makes it hard to use language (speaking, listening, reading and writing), or do math
  - Things you have to be taught
  - Up to 50% of kids with ADHD have LD
Learning Problems

• Problems
  – Learning
  – Remembering
  – Organizing
  – Showing what you know
• Can be inherited
• Not intellectual disability
• Not ADHD

• Reading
  – May be able to read the words but not get it
• Understanding
• Writing
• Speaking
• Listening
• Math
  – Calculations vs story problems
Learning Problems

- Shows up when school starts
- Academics well below average
- Not because of medical problems
- Not because of missing school, problems at home
Learning Problems

- Often called lazy, careless, doesn’t try, unmotivated
- Humans like medium hard
- Everybody ends up frustrated
- Teacher may think it is ADHD
- Lifelong
• Trouble learning nursery rhymes or songs
• Baby talk
• Mispronounce words
• Hard time learning letters, numbers, days of the week
• Hard time with phonics
  – B is for ball
Elementary

- Problems with letter/sound
- Read slowly with mistakes
- May not get that a 1 stands for one thing
- Can’t learn easy words (dog)
- Problems with irregular words
  - Get/got
- Can’t memorize math facts
- Hard time pronouncing
- Lots of guessing
- Don’t like school
Teens and Adults

• Reading is still slow
• Understanding is a problem
• Try to avoid reading and math
• Hard to see how something applies to the real world
• Anxiety
Dyslexia

• Problems with:
  – Reading or ease of reading (fluency)
  – Writing
  – Spelling
  – Reverse letters
  – Pronunciation
Dyscalculia

- Difficulties in:
  - Understanding numbers
  - Math concepts like algebra or geometry
Dysgraphia

• Difficulty writing:
  – Can’t read it
  – Hard to space letters or line them up
  – Spelling
• Auditory Processing Disorder
  – Understanding sounds
  – Hears but doesn’t understand
  – Hard to follow directions
  – Harder in noisy setting

• Dyspraxia
  – Hard time moving
  – Clumsy

• Visual processing
  – Judging physical distance
  – Gets in other’s space
  – Hard time telling different words or letters apart
Memory Problems

• Longer than usual to learn things
• Lose train of thought
• Only follow one direction at a time
• Hard time with math and spelling
• Forgets things

• Hard time remembering:
  – Facts
  – Phone numbers
  – Assignments
  – Following directions
• Mix up words that sound alike
• Hard time with puzzles
• Reverse letters
• Hard following lines on a page
• Hard following directions
Organization

- Room is a mess
- Hard time copying patterns (bead necklace)
- Not know where to begin (clean your room)
- Hard time with rules
- Social studies, science can be harder
- Hard time with jokes
Spatial Temporal

- Hard time with left/right, tomorrow/yesterday
- Clumsy, runs into things
- Hard time telling a story in order
- Rush or too slow
- Get lost easily
- Hard time lining up math problems

I'm not clumsy. It's just the floor hates me, the tables and chairs are bullies, & the wall gets in the way.
Language Disorder

- Usually stable after age 4
- Not due to hearing
- If ID, worse than expected of cognitive level
- Worse if the bigger problem is understanding rather than getting the words out
- Can be genetic
Language

- Don’t get jokes and humor
- Can’t read body language

- Slow to talk
- Forget names for things
- Hard time reading, writing, spelling
- Hard time following multiple step directions
- May not understand as well as we think
Behavior Social

- Mood swings
- Rage when frustrated
- Appears immature, hard time making friends
- Hard time interpreting body language, tone of voice
- Not everything is autism
  - ID, Speech, ADHD, ODD, anxiety, NVLD, social communication d/o
Cognitive Disorder

- Uneven cognitive development
- Language based learning disorder
- Nonverbal learning disorder
- Scatter
- Executive functions
- Processing speed
What to Do?

- Get information from teachers/parents
- Rule out other problems (vision, hearing)
- Assessment
  - Education
  - Cognitive/Academic (IQ)
  - Speech
  - Neurodevelopmental
  - OSA, constipation, etc
- Ask for IEP or 504 (Individual Education Plan) in writing
Special Education

- Special education if the child does not learn enough for age or meet grade level standards
- talking, listening, reading, understanding, math
- School team and parents working together
Intellectual Disability/ID

- IQ 70 +/- 5
- Adaptive skills
- **Dyslexia**
  - NIMAS/AIM
    - National Instructional Materials Accessibility Standards/Accessible Instructional Materials
  - Books on tape
  - Read tests
- **Dysgraphia**
  - Assistive Tech
    - Dictation software
- **Dyscalculia**
  - Calculator
- **Anxiety/Depression/ADHD**
  - PCIT
  - Cognitive therapy
    - Parentingchaos.com
    - Headspace, Calm, Pacifica, Moodkit
- **Kazdin Method for Parenting the Defiant Child**
- **Sleep**
  - Hygiene
  - Cognitive therapy
• Healthy diet
• Avoid red dye
• Exercise
• Avoid TV and video games.
• Multiple vitamin
• Fish oil
  – combination of DHA and EPA.
  – 1-2 grams per day.
  – “mercury-free” or “USP.”
• Probiotics
• Gingko biloba, 80-120 mg (40 mg two times a day. 3 times for children weighing more than 65 lb)
• CBT or PCIT
Resources

• Iowa
  – ASK Resources
  – Family Educator Partnership
  – Area Education Agencies (AEA)
  – Center for Disabilities and Development
    • Disability Resource Library
Summary

• ADHD, learning disabilities and intellectual disability are not the same thing
• Plans need to be made to fit the child
• You need a diagnosis to see what is needed
• You need an evaluation for diagnosis
• Meds don’t fix everything
• Patients don’t read the pathophysiology or pharmacology textbooks
The things that make me different are the things that make me ME.