THE FACES OF ADHD
Outline

- DSM V Diagnosis
- National Recommendations for ADHD Management
- Stimulant Overview
- Guidance/Anticipatory Guidance
  - SLEEP
Take home points

• Inattention ≠ Attention Deficit/Hyperactivity Disorder
  • In other words– ADHD is never just one symptom
• Medication helps the core symptoms of ADHD
  • Quality medication management may impact comorbidities
• Non-pharmacologic intervention has a vital role
• Comorbidity is the RULE with ADHD
• ADHD is a lifelong condition – with serious lifelong implications
• A consistent approach (with follow-up) can make the difference
ADHD for the Primary Care Provider

MAKING THE ADHD DIAGNOSIS
Differential Diagnosis

• ADHD is characterized by a consistent pattern of symptoms of inattention and/or hyperactivity-impulsivity
  • that are inconsistent with developmental level
  • that negatively impact social and academic/occupational activities
  • and that must be differentiated from...
Diagnostic Criteria: Inattention

1. Careless mistakes (overlooks or misses details)
2. Difficulty sustaining attention (difficulty with focus, conversations, long readings)
3. Does not seem to listen (mind seems elsewhere, even without distraction)
4. Does not follow through (starts & quickly loses focus/fails to follow-thru)
5. Difficulty organizing (poor time management, messy, disorganized, difficulty with sequential tasks)
6. Avoids tasks that require sustained mental effort (school work, reports)
7. Loses things (eye glasses, mobile phones, etc)
8. Easily distracted (older adolescents by unwanted thoughts)
9. Forgetful (chores, bills, homework)
Diagnostic Criteria: Hyperactivity/Impulsivity

1. Fidgets (squirming in seat, tapping)
2. Leaves seat (when sitting is required/expected)
3. Runs about or climbs (in adolescents or adults feeling restless)
4. Unable to quietly play or engage in leisure activities
5. “On the go” “driven by a motor” (may be experienced by others as being restless or unable to keep up with)
6. Talks excessively
7. Blurts out (completes peoples sentences, cannot wait turn in conversation)
8. Difficulty waiting turn (while waiting in line)
9. Interrupts or intrudes (butts into conversations, may take things without asking or receiving permission, may intrude into or take over what others are doing
“Substantial” Changes from DSM IV to 5

1) The onset criterion has been changed
   a) You previously needed impairment prior to age 7
   b) Now you need to have had several symptoms prior to age 12

2) A co-morbid diagnosis of autism spectrum disorder is allowed

3) Adults qualify for a diagnosis with 5 symptoms (in either or both category), rather than the 6 required in children <17 y/o
AAP Recommendations

- Consider the Diagnosis
- Make the Diagnosis
  - Collect Information - from more than one setting
  - Consider comorbidities
- Approach as a chronic condition
- Recommend treatment based on age/need
- Use appropriate “dose” of treatment
The AAP Recommendations for ADHD state that a PCP should consider ADHD in...

a. Children 5 thru 18
b. Children 11 thru 18
c. Children 4 thru 18
d. With academic or behavioral problems &
e. Symptoms of inattention, hyperactivity, or impulsivity
f. a, d and e are true
g. b, d, and e are true
h. c, d, and e are true

- Quality of Evidence B/Strong Recommendation
Approach to Treatment Planning

DIAGNOSTIC THEORY

Developmental Context & Environment → Diagnostic Theory

Approach to treatment

Diagnostic Theory → Monitor Response

Monitor Response → Treatment Targets

Treatment Targets → Intervention

Intervention → Diagnostic Theory
Make the Diagnosis: Rule In ADHD & Rule Out Others

- Determine if DSM 5 Criteria are met (including impairment in more than 1 major setting)
- Information should be obtained primarily from reports from parents or guardians, teachers, and other school and mental health clinicians involved in the child’s care
- Rule out any alternative cause

- Quality of Evidence B/Strong Recommendation
2/3 of children with ADHD present with ≥ 1 comorbidity

### Comorbid Conditions in Children with ADHD

<table>
<thead>
<tr>
<th>Comorbidities</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety disorder</td>
<td>8% – 30%</td>
</tr>
<tr>
<td>Conduct disorder</td>
<td>8% – 25%</td>
</tr>
<tr>
<td>Oppositional-defiant disorder</td>
<td>45% – 64%</td>
</tr>
<tr>
<td>Affective disorder</td>
<td>15% – 75%</td>
</tr>
<tr>
<td>Tic disorder</td>
<td>8% – 34%</td>
</tr>
<tr>
<td>Mania/hypomania</td>
<td>0% – 22%</td>
</tr>
<tr>
<td>Learning/academic problems</td>
<td>10% – 92%</td>
</tr>
</tbody>
</table>

Evaluation – Assess for Potential Coexisting Conditions

- Developmental (eg, learning and language disorders or other neurodevelopmental disorders), and
- Emotional or behavioral (eg, anxiety, depressive, oppositional defiant/conduct disorders & trauma response),
- Physical (eg, tics, sleep apnea, substance use) conditions

- Quality of Evidence B/Strong Recommendation
Are there deficits in intellectual function and deficits in adaptive functioning?

- No

Are there persistent difficulties in the acquisition and use of language?

- No

Are there difficulties in learning and using academic skills?

- No (next slide...)

Are there deficits in developing and understanding relationships; deficits in social-emotional reciprocity; and restricted repetitive patterns?

- Yes (ADOS)
- No

Yes (IQ and Adaptive function testing)

- Yes

Intellectual or Development Disorder

- No

Autism Spectrum Disorder (ASD) or Social Communication

- No

Language Disorder

- Yes

Specific Learning Disorder

- No (standardized language, ability tests & clinical assessment)
Is there Avoidance or Worry?

No

Are there episodic periods of different mood, sleep or activity?

No

Associated with a pattern of negativistic, hostile, defiant behaviors or antisocial behaviors?

Yes (Comprehensive Clinical Assessment)

Trauma?

Yes (Comprehensive Clinical Assessment)

Separation Anxiety
Generalized Anxiety
Social Phobia
Selective Mutism

Depression or Bipolar Disorder

Oppositional Defiant Behavior (ODD) or Conduct Disorder

Consider PTSD or Trauma Response.
Physical/Other

Snoring, Awakenings, Difficulty with sleep
  No

Use of substance?
  No

Tics/Etc
  Yes (Comprehensive Clinical Assessment)

Other Medical, Psychiatric (psychotic, personality disorders) or No psychiatric disorder

Sleep Disorder

Substance Use

Consider Tourette's or other neurologic condition
Oppositional Defiant Disorder or Conduct Disorder

**ODD / CD**
- Resistance to work due to refusal to submit to others’ demands accompanied by negativity, hostility, and defiance

**ADHD**
- Aversion to work due to difficulty in sustaining attention, forgetting instructions, procrastination, and impulsivity
Anxiety/PTSD
- Difficulty concentrating and physical restlessness is related to fear or worry, rumination, intrusive thoughts or images, and other trauma or anxiety symptoms.

ADHD
- Inattention and hyermotoric behavior is due to attraction to external stimuli or new activities, or preoccupation with preferred, less cognitively taxing activities.
Bipolar and Depressive Disorders

**BD**
• May show hyperactivity, impulsivity, irritability and distractibility, but these features are episodic and accompanied by other specific features of hypo/mania.

**DD**
• May show inattention, irritability, difficulty completing tasks; however, these symptoms are episodic and accompanied by specific features of depression.

**ADHD**
• May exhibit mood lability throughout the day, however, it is non-episodic and accompanying features of a major mood disorder are not present.
# BEARS Sleep Screening Tool: Preschool (2-5 years)

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedtime Routine</td>
<td>Does your child have any problems going to bed? falling asleep?</td>
</tr>
<tr>
<td>Excessive Daytime Sleepiness</td>
<td>Does your child seem overtired or sleepy a lot during the day</td>
</tr>
<tr>
<td>Awakenings During the Night</td>
<td>Does your child still take naps? Does she wake up a lot during the night?</td>
</tr>
<tr>
<td>Regularity and Duration of Sleep</td>
<td>Does your child have a regular wake up and bedtime every night? What are they?</td>
</tr>
<tr>
<td>Sleep Disordered Breathing</td>
<td>Does your child snore a lot or have difficulty breathing at night?</td>
</tr>
</tbody>
</table>
**BEARS Sleep Screening Tool:**
School Age Child (5-12 years)

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedtime Routine</td>
<td>Does your child have any problems at bedtime? (P) Do you have any problems going to bed? (C)</td>
</tr>
<tr>
<td>Excessive Daytime Sleepiness</td>
<td>Does your child have difficulty waking in the morning, seem sleepy during the day, or take naps? (P) Do you feel tired a lot? (C)</td>
</tr>
<tr>
<td>Awakenings During the Night</td>
<td>Does your child seem to wake up often during the night? Any sleep walking or nightmares? (P) Do you wake up a lot at night? Have trouble getting back to sleep? (C)</td>
</tr>
<tr>
<td>Regularity and Duration of Sleep</td>
<td>What time does your child go to bed and get up on school days? Weekends? Do you think that your child is getting enough sleep?</td>
</tr>
<tr>
<td>Sleep Disordered Breathing</td>
<td>Does your child have loud nightly snoring or any breathing difficulties at night?</td>
</tr>
</tbody>
</table>
**BEARS Sleep Screening Tool: Adolescent (12-18 years)**

<table>
<thead>
<tr>
<th>Bedtime Routine</th>
<th>Do you have any problems falling asleep at bedtime?(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive Daytime Sleepiness</td>
<td>Do you feel sleepy a lot during the day? While driving?(C)</td>
</tr>
<tr>
<td>Awakenings During the Night</td>
<td>Do you wake up a lot during the night? Have trouble getting back to sleep?(C)</td>
</tr>
<tr>
<td>Regularity and Duration of Sleep</td>
<td>What time do you usually go to bed on school nights? Weekends? How much sleep do you usually get?(C)</td>
</tr>
<tr>
<td>Sleep Disordered Breathing</td>
<td>Does your teenager snore loudly or nightly?(C)</td>
</tr>
</tbody>
</table>
## General Differential

<table>
<thead>
<tr>
<th>Developmental/Learning</th>
<th>Emotional/Behavioral</th>
<th>Physical/Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty with Intellectual functioning/adaptive functioning</td>
<td>Avoidance/Worry</td>
<td>Snoring, Awakening, or difficulty with sleep</td>
</tr>
<tr>
<td>Difficulty with Acquisition and use of language</td>
<td>Episodic periods of mood</td>
<td>Substance Use</td>
</tr>
<tr>
<td>Are there deficits in developing and understanding relationships; deficits in social-emotional reciprocity; and restricted repetitive patterns</td>
<td>Pattern of negativistic, hostile, defiant, or antisocial behaviors</td>
<td>Tics</td>
</tr>
<tr>
<td>Difficulty with Learning</td>
<td>Recent (or other) Trauma history</td>
<td>Other psychiatric or medical</td>
</tr>
</tbody>
</table>
# Overview of the ADHD Care Process

A 4- to 18-year-old patient identified with signs or symptoms suggesting ADHD. Symptoms can come from parents’ direct concerns or the mental health screen recommended by the TFOMH. See TFOMH Algorithms. See action statement 1.

## Perform Diagnostic Evaluation for ADHD and Evaluate or Screen for Other/Coexisting Conditions:

<table>
<thead>
<tr>
<th>Family (parents, guardian, other frequent caregivers):</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Chief concerns</td>
</tr>
<tr>
<td>- History of symptoms (e.g., age of onset and course over time)</td>
</tr>
<tr>
<td>- Family history</td>
</tr>
<tr>
<td>- Past medical history</td>
</tr>
<tr>
<td>- Psychosocial history</td>
</tr>
<tr>
<td>- Review of systems</td>
</tr>
<tr>
<td>- Validated ADHD instrument</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School (and important community informants):</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Concerns</td>
</tr>
<tr>
<td>- Validated ADHD instrument</td>
</tr>
<tr>
<td>- Evaluation of coexisting conditions</td>
</tr>
<tr>
<td>- Report on how well patients function in academic, work, and social interactions</td>
</tr>
<tr>
<td>- Academic records (e.g., report cards, standardized testing, psychoeducational evaluations)</td>
</tr>
<tr>
<td>- Administrative reports (e.g., disciplinary actions)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Child/adolescent (as appropriate for child’s age and developmental status):</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Interview, including concerns regarding behavior, family relationships, peers, school</td>
</tr>
<tr>
<td>- For adolescents: validated self-report instrument of ADHD and coexisting conditions</td>
</tr>
<tr>
<td>- Report of child’s self-identified impression of function, both strengths and weaknesses</td>
</tr>
<tr>
<td>- Clinician’s observations of child’s behavior</td>
</tr>
<tr>
<td>- Physical and neurologic examination</td>
</tr>
</tbody>
</table>

See action statements 2-3.
Scales used for diagnosis of ADHD in children

- Child Behavior Checklist (CBCL/6-18)
  - 120 items – inform about possible syndromes & internalizing/externalizing problems

- Conners-Wells' Adolescent Self-Report Scale
  - Used for ADHD screening rather than to aid in diagnosis

- Conners' Rating Scales
  - 4 subscales of oppositional problems, cognitive problems, hyperactivity, and an ADHD index

- Vanderbilt ADHD Rating Scales
  - Over 40 items rated
  - Best coverage of ADHD and ODD symptoms

- ADHD Rating Scale
  - 18-item scale corresponding to the 18 items in the DSM criteria that is divided into hyperactivity/impulsivity and inattentiveness subscales
Overview of the ADHD Care Process

1. 4- to 18- y-old patient identified with signs or symptoms suggesting ADHD. Symptoms can come from parents’ direct concerns or the mental health screen recommended by the TFOMH. See TFOMH Algorithms. See action statement 1.

2. Perform Diagnostic Evaluation for ADHD and Evaluate or Screen for Other/Coexisting Conditions: See action statements 2–3.

**Family**
- Chief concerns
- History of symptoms (e.g., age of onset and course over time)
- Family history
- Past medical history
- Psychosocial history
- Review of systems
- Validated ADHD instrument
- Evaluation of coexisting conditions
- Report of function, both strengths and weaknesses

**School**
- (and important community informants):
  - Concerns
  - Validated ADHD instrument
  - Evaluation of coexisting conditions
  - Report on how well patients function in academic, work, and social interactions
  - Academic records (e.g., report cards, standardized testing, psychoeducational evaluations)
  - Administrative reports (e.g., disciplinary actions)

**Child/adolescent**
- (as appropriate for child’s age and developmental status):
  - Interview, including concerns regarding behavior, family relationships, peers, school
  - For adolescents: validated self-report instrument of ADHD and coexisting conditions
  - Report of child’s self-identified impression of function, both strengths and weaknesses
  - Clinician’s observations of child’s behavior
  - Physical and neurologic examination
## ADHD Medication: Cardiac Assessment

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortness of breath with exercise (more than other children of the same age) in the absence of an alternate explanation (e.g. asthma, sedentary lifestyle, obesity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor exercise tolerance (in comparison with other children) in the absence of an alternate explanation (e.g. asthma, sedentary lifestyle, obesity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fainting or seizures with exercise, startle or fright</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palpitations brought on by exercise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family history of sudden or unexplained death including sudden infant death syndrome, unexplained drowning or unexplained motor vehicle accidents (in first or second degree relatives)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal or family history (in first or second degree relatives) of non-ischemic heart disease such as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long QT syndrome or other familial arrhythmias</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wolff-Parkinson-White syndrome</td>
<td></td>
<td></td>
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<tr>
<td>Cardiomyopathy</td>
<td></td>
<td></td>
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<tr>
<td>Heart Transplant</td>
<td></td>
<td></td>
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<tr>
<td>Pulmonary Hypertension</td>
<td></td>
<td></td>
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<tr>
<td>Unexplained motor vehicle collisions or drowning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implantable defibrillator</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical Examination</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organic (not functional) murmur present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sternotomy incision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other abnormal cardiac findings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ongoing Treatment – Chronic Condition

- Recognize ADHD as a chronic condition
- Consider children and adolescents with ADHD as children and youth with special health care needs
- Follow the principles of the chronic care model and the medical home
  - Have a systematic follow-up plan that includes in-person visits

- Quality of Evidence B/Strong Recommendation
Treatment recommendations vary by age

- The AAP Recommendations for treatment of children and youth with ADHD vary depending on the patient’s age.
For preschool-aged children (4–5 years)

- Behavioral Therapy
  - Quality of Evidence A/Strong Recommendation
- If moderate to severe behavioral disturbance and behavioral therapy is not working –
  - Prescribe methylphenidate
- In areas where evidence-based behavioral treatments are not available, the clinician needs to weigh the risks of starting medication at an early age against the harm of delaying diagnosis and treatment
  - Quality of evidence B/Recommendation
Preschool

• Therapy
  • Focused on helping parents develop unique skills needed for child with behavioral problems (although these skills will help with all children)
  • PMT, PCIT, (Or trauma-focused treatment)
• Preschoolers do respond to medication, but have less consistent response, and more side effects.
  • Start low and escalate slowly
• How much are the behaviors impacting ability to reach expected development – walking, talking, social, maintaining in school, etc.
For elementary school–aged children (6–11 years)

- FDA approved medications and/or behavioral therapy
  - Preferably both medication and therapy
- The evidence is particularly strong for stimulant medications and sufficient but less strong for atomoxetine, extended-release guanfacine, and extended-release clonidine (in that order)
  - Quality of Evidence A/Strong Recommendation.
- The school environment, program, or placement is a part of any treatment plan.
For adolescents (12–18 years)

- Should prescribe stimulants
  - Quality of Evidence A/Strong Recommendation

- May prescribe behavior therapy as treatment for ADHD
  - Quality of Evidence C/Recommendation

- Preferably both.
Treatment – titrate to effective dose

- Achieve maximum benefit while minimizing adverse effects
- Quality of Evidence B/Strong Recommendation

- **EVIDENCE SHOWS THAT KIDS IN THE COMMUNITY GET LOWER DOSES THAN THOSE IN RESEARCH STUDIES****
ADHD for the Primary Care Provider

MEDICATION
Two (Very) Broad Classes of ADHD Medications

• **Stimulants**
  - Methylphenidate
  - Amphetamine

• **Non-stimulants**
  - Alpha-2 agonists
  - Atomoxetine (Strattera)
  - Bupropion (Wellbutrin)
Two (Very) Broad Classes of Stimulants

• Methylphenidate and derivatives
  • FDA approved for age 6 and up
  • AAP recommends starting with methylphenidate at 3-6 y/o due to quality of evidence

• Amphetamine and derivatives
  – FDA approved for as young as 3 y/o in some forms
  – Dextrostat & Adderall

You Can Not Predict Who Will Respond Better to One or the Other
Stimulants: Most Effective ADHD Treatment

• Side Effects/Concerns
  • Decrease in appetite (with subsequent weight loss)
  • Upset stomach
  • Headaches
  • Decline in sleep
  • Cardiac side effects
    • Elevation of pulse and blood pressure
    • AACAP does not recommend routine collection of baseline EKG
  • Irritability as “coming off” of medication
  • Tics
  • Potential for abuse/diversion is HIGH

• Drug Holidays are fine – but may not be indicated based on impairment and/or symptoms when “coming off” of medication
Stimulant dosing

• Weight based dosing
  • Not generally utilized for therapeutic effect
  • Can be used to estimate how close you are to max dose
  • Methylphenidate @ 1 mg/kg
  • Adderall @ 0.6 mg/kg
• Dose to clinical response
• Consider forced titration
  • ie Start at lowest dose and increase in 1 week if tolerating
Stimulant Dosing

• Start low, go up, and follow-up
  • Phone call or visit in 2 weeks, particularly if a forced titration
  • In person follow up in 4 weeks
• Collect data from teachers and parents to assess progress (follow-up Vanderbilts)
• Can tell very rapidly if a medication is going to work or not
• Side effects (esp GI) often get better if patients can persevere
• If no significant side effects but no significant improvement increase dose
Concerta

- In Nov 2014, the FDA said that only 2 generics were equivalent to Concerta – two others may not be releasing in the same way
  - The possible impact is the medication not working as long, or working differently earlier in the day.
- If your prescription does not say Concerta on it pharmacies can substitute the generics that have not been approved as equivalent to Concerta.
  - Not all long-acting methylphenidate is created equal
Optimal Management

• Assess for comorbidities and treat appropriately
• Encourage therapy & engaging school supports
• When titrating medications, increase aggressively & check-in more frequently (every 4-6 weeks) until symptoms optimized
• Brief Follow-up visits
  • 3-4 times a year when stable
  • Follow-up on ADHD and potential comorbidities at each follow-up
• Have a system in your office for refills
  • Nurse triage looks for last visit and schedules follow-up if not seen in 2-3 months – can also give out forms
Case 1

• Rodger is a 7 year old 1st grade student who takes Metadate CD 40mg. His mom notes that he is very inattentive and hyperactive after school and he just got suspended from the bus for 3 days for bad behavior. Mom called to ask for an increase of medication

• PLAN:
  • Ask mom to get home and school Vanderbilts
  • Schedule an appointment
### Rodger’s Vanderbilts

<table>
<thead>
<tr>
<th>Positive(score &gt; 2)</th>
<th>Mom</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inattentive questions(1-9)</td>
<td>8/9</td>
<td>6/9</td>
</tr>
<tr>
<td>Hyperactive questions(1-9)</td>
<td>9/9</td>
<td>6/9</td>
</tr>
<tr>
<td>ODD questions(19-26)</td>
<td>2/8</td>
<td>2/8</td>
</tr>
<tr>
<td>Conduct Disorder(27-40)</td>
<td>0/14</td>
<td>0/14</td>
</tr>
<tr>
<td>Anxiety/Depression(41-47)</td>
<td>0/7</td>
<td>0/14</td>
</tr>
</tbody>
</table>

Teacher also comments that she thinks he needs a nap, because he struggles so much more after lunch than in the morning. 
She states that he is a smart child who has a lot of friends, despite being quite disruptive in afternoon recess. 
Mom notes that there is a kid, who is only on the afternoon bus, who instigates him.
| General Differential |  |
|----------------------|----------------------|----------------------|
| **Developmental/Learning** | **Emotional/Behavioral** | **Physical/Other** |
| Difficulty with Intellectual functioning/adaptive functioning | Avoidance/Worry | Snoring, Awakening, or difficulty with sleep |
| Difficulty with Acquisition and use of language | Episodic periods of mood | Substance Use |
| Are there deficits in developing and understanding relationships; deficits in social-emotional reciprocity; and restricted repetitive patterns | Pattern of negativistic, hostile, defiant, or antisocial behaviors | Tics |
| Difficulty with Learning | Recent(or other) Trauma history | Other psychiatric or medical |
Treatment planning

Diagnosis – definitely ADHD

Treatment Targets

“I want him to be able to stay on the bus”
- Decreased hyperactivity
- Improved attention to bus driver

Intervention

Nonmedication
- Is there a way to separate him from this other boy

Medication – Is he actually covered throughout the day?
**LENGTH OF ACTION**

<table>
<thead>
<tr>
<th></th>
<th>Amphetamine</th>
<th>Methylphenidate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-acting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– 4 hours</td>
<td></td>
<td>Ritalin, Methylin</td>
</tr>
<tr>
<td><strong>Longer short acting</strong></td>
<td>Adderall, Evekeo, Zenzedi, Procentra</td>
<td></td>
</tr>
<tr>
<td>– 4-6 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intermediate Acting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--6-8 hours</td>
<td></td>
<td>Metadata CD</td>
</tr>
<tr>
<td><strong>Long-Acting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--10-12 hours</td>
<td>Adderall XR</td>
<td>Quillivant(liquid), Quillichew, Aptensio XR</td>
</tr>
<tr>
<td><strong>Enantiomer</strong></td>
<td></td>
<td>Concerta</td>
</tr>
<tr>
<td><strong>Unique equivalency rule</strong></td>
<td><strong>Adzenys XR-ODT</strong></td>
<td><strong>Vyvanse 70mg</strong></td>
</tr>
</tbody>
</table>
What happened with Rodger?

• He takes his Metadate CD at 6am.
• He gets on the afternoon bus at 3pm
  • (9 hours after dose)
• Teacher thinks behaviors are getting in the way at 2pm
  • (8 hours after dose)

• PLAN
  - Add afternoon dose of methylphenidate, Ritalin 10mg
  - Give ½ hour before medication effect is wearing off
Why did I choose 10mg?

1. Convert everything back to short acting doses
   - Estimate how much the morning, mid afternoon, and evening dose is (if applicable)
2. Afternoon dose should be at least ½ AM dose
3. Afternoon dose should be taken at least ½ hour before symptoms return
   - Methyphenidate was studied 3 times a day 4 hours apart
     - For example methylphenidate (Ritalin) 20mg three times a day (over a 12 hour period)
     - Metadate CD lasts 8 hours (2 doses of short acting methylphenidate)
     - He takes Metadate CD 40mg –
       - Convert to short-acting – Ritalin 40mg (total daily dose of methylphenidate)
       - He is getting medication similar to Ritalin 20mg at 6am and 10-11am
       - So his third dose should be at least ½ AM dose – Ritalin 10mg – 20mg
ADHD for the Primary Care Provider

GUIDANCE & ANTICIPATORY GUIDANCE
Will these medications impact appetite and growth?

- Appetite – YES Definitely
- Stimulants and Strattera reduce appetite
- Encourage high calorie meals
- Discourage skipping meals
- Consider eating before and after medication kicks in
- If none of the above work, consider periactin 2mg-4mg at bedtime

- GROWTH – A little
  - Controlled studies show that continuous use for long periods of time (2 years or more) are correlated with a slight decrease in height and weight (for age)
  - Naturalistic studies found no effect
Testing

• What about neuropsychologic testing?

• Neuropsych testing can help clarify strengths and weaknesses. Can augment school findings.

• Insurance will often cover if there is question of a comorbidity

• Does my child need an EEG?

• NO

• Even the neurologists do not recommend an EEG as a part of the work-up, although they state that it can “augment” work-up.
Addiction

• Will these medication cause addiction?

• No one has been able to show an increase in addictive behavior associated with the use of medication

• Will these medications prevent addiction?

• Although there is no long-term data showing a decrease in addictive behavior as an adult associated with ADHD treatment, there is data showing a decrease conduct behaviors (often associated with addiction) while a person is taking stimulant medication
Stimulant medications – cardiovascular system

• Does my child need an EKG?
  • NO

• Do these medications impact the cardiovascular system?
  • YES, slight increase in blood pressure and heart rate

• My child has tics, can they use a stimulant?
  • YES
  • There is conflicting evidence about whether or not tics increase with stimulants
  • Tics tend to start in school-age children, and they come and go.
  • If tics are clearly worsened by stimulant consider nonstimulant alternative
My child has difficulty with sensory processing – not ADHD

- Often times kids with ADHD also have difficulties with sensory processing (again comorbidity is the rule)
  - They have poor handwriting
  - They are clumsy (have trouble with knowing where their body is in space)
- It is reasonable to send for PT and OT evaluations – kids with ADHD can benefit from that.
- If parent is resistant to the ADHD diagnosis, schedule a follow-up with repeat measures from the rehab providers and school in order to assess further
Can my child get support from the school?

• In public schools children do qualify for an IEP based on the qualification of “other health impaired.”

• Many schools prefer to handle ADHD with a 504 plan

• If you have a 504 plan make sure that the parent is aware what is on it and discusses with the teacher
  • OPEN COMMUNICATION IS KEY

• If a 504 plan is not enough the family must request testing for an IEP IN WRITING.
School Aged child

• My child seems immature. Is that normal?
  • Children with ADHD will typically seem immature compared to their peers.
  • This may be particularly problematic if a child is blurtling out and interrupting repeatedly with jokes that are not age appropriate.

• Should we consider an afternoon dose?
  • YES

- Is there after school homework?
  Are ADHD behaviors worsening the home environment?
  Do ADHD behaviors make it harder for your child to interact with their peers?