PREP for Boards
ADHD

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• Questions...
  – …And Then Answers...
• Resources
1. PREP 2011 Question 107

• A 7-year-old boy has mild intellectual impairment and an autism spectrum disorder.
• He has a pleasant disposition and no aggressive behaviors.
• He has trouble paying attention in the classroom and difficulty staying in his seat.
• Both teacher report and parent rating forms document highly significant hyperactivity.
1., 2

- Both forms denote difficulty paying attention.
- His parents are concerned that his activity level is affecting his ability to learn.
- They ask if any medication can help him attain school success.
1., 3

- The MOST appropriate response is to
  A. Begin an atypical antipsychotic
  B. Begin a trial of a serotonin reuptake inhibitor
  C. Begin a trial of stimulant medication
  D. Explain that medication would be ineffective due to his intellectual disability
  E. Reassure the family that “he is doing his best” and have them return in 6 months
1., 4

- Simply reassuring the family will not help his functioning at school.
- An atypical antipsychotic is not indicated, because the child is not exhibiting
  - Aggressive behavior
  - Self-injurious behavior
  - Irritability
  - Explosive outbursts
• Serotonin reuptake inhibitors are indicated for the treatment of obsessive-compulsive behaviors, anxiety, or symptoms of low mood.
• Stimulants can be effective, even in individuals who have intellectual disabilities.
2. PREP 2012 Question 116

• A 7-year-old girl is having behavioral problems in school.
• Her academic skills are strong, but she is impulsive and has difficulty staying on task and remaining quiet while the teacher is talking.
• When students line up, she pushes to be at the head of the line.
• At home, her parents have problems getting her to comply with their requests.
• She needs frequent reminders to sit and do her homework.
• The MOST appropriate next step is to
  A. Begin a trial of stimulant medication
  B. Complete Vanderbilt questionnaires
  C. Have the parents institute a token economy behavior plan
  D. Obtain a thyroid function test
  E. Refer the child for psycho-educational testing
• Behavioral rating questionnaires
  – Can aid in delineating a child’s attention and activity levels
  – Can unveil the presence of oppositional or other disruptive behaviors
  – Rating scales are NOT diagnostic in isolation!
    • They help obtain standardized information from both parents and teachers
    • They document core symptoms of specific behavioral disorders for a child compared with his or her peers
• A full assessment is indicated before instituting a behavioral plan such as a token economy.
• A diagnosis of ADHD is necessary before starting stimulant medication.
• With no academic issues, a psycho-educational evaluation is NOT indicated.
• There are NO clinical findings to suggest the need for a thyroid function test.
3. PREP 2012 Question 169

- An 8-year-old boy has ADHD and learning issues.
- He currently is receiving specialized education services and methylphenidate for his ADHD.
- He does well with the structure that is in place at school but has issues with compliance at home when completing his homework.
- His parents seek guidance in establishing a behavioral modification approach at home.
3., 2

• The BEST intervention is
  A. Extinction
  B. Habit reversal
  C. Spanking
  D. Stress anxiety reduction procedures
  E. Token economy
• Token economy
  – Providing rewards or privileges for a child’s positive behavior and losing these for negative behaviors

• Extinction
  – The denial of all attention after a child engages in negative behavior

• Habit reversal
  – A behaviorally based treatment for repetitive behaviors that serve no adaptive purpose
• Spanking
  – May immediately decrease a child’s negative behavior
  – It teaches a child that hitting is acceptable
  – It results in other discipline approaches losing their efficacy
  – The American Academy of Pediatrics does not like spanking
    • The AAP was not spanked as a child...
3b. BONUS Question 1

• You are the residency program director of a prestigious pediatric program.
• One of your residents is having problems.
• He does well with the structure that is in place in the hospital but has issues with compliance at clinic with completing his charts.
• Your partners seek guidance in establishing a behavioral modification approach in clinic.
The BEST intervention is

A. Extinction
B. Habit reversal
C. Spanking
D. Stress anxiety reduction procedures
E. Token economy
4. PREP 2012 Question 222

• A 17-year-old boy comes to your office for medication management of his ADHD.
• He explains that he is considering stopping his medication before his last year in high school.
• His parents are upset because they are fearful that his academic success will diminish and that he may make poor social choices.
• His parents ask about the long-term outcome for ADHD.
• What is the BEST response to give?

A. “Certain features of ADHD (risk taking, fast-paced approach, outgoing style) may be advantageous in some occupations!”

B. “Longitudinal studies have NOT found elevated anxiety or mood disorders among adults with ADHD…”

C. “Males who have ADHD have a greater ability to handle stressful situations…”

D. “More than 75% of children who have ADHD no longer have inattention or have a need for stimulant medications in adulthood.

E. “With your ADHD, have you thought about a career in Olympic downhill snowboarding?”
• Adults and ADHD
  – 85% of children will still have symptoms as adults
  – Common: elevated anxiety or mood disorders
  – Males with ADHD: poorer ability to handle stress
  – Higher rates of divorce among adults who have ADHD compared to the general population
  – More issues with having speeding tickets
  – Report less satisfaction on job performance
5. PREP 2012 Question 238

• An 8-year-old boy is having attention difficulties in his third-grade classroom.
• He has not had a learning disability identified.
• The parent and teacher Vanderbilt rating forms are significant for inattention and impulsivity.
• You consider starting medication to treat ADHD.
The MOST significant historical information that would affect your decision to start treatment with a stimulant medication is

A. Absence epilepsy in his 6-year-old sister
B. Bipolar disorder in his paternal uncle
C. Mild motor tic in the child
D. Myocardial infarction in the paternal grandfather at the age of 65 years
E. Sudden death of his 15-year-old brother while playing basketball
• ADHD Treatment
  – First-line agents are stimulant medications
  – Generic forms are methylphenidates and amphetamines
  – Other medications used are non-stimulants
    • Atomoxetine
    • Guanfacine
  – Non-stimulants are considered second-line, because they are less effective in treating ADHD
### Item C238A. Contraindications to Medications Used to Treat ADHD

<table>
<thead>
<tr>
<th>Active Ingredients</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamines</td>
<td>Monoamine oxidase (MAO) inhibitors within 14 days, glaucoma, symptomatic cardiovascular disease, hyperthyroidism, moderate-to-severe hypertension</td>
</tr>
<tr>
<td>Methylphenidate</td>
<td>MAO inhibitors within 14 days, glaucoma, symptomatic cardiovascular disease, hyperthyroidism, moderate-to-severe hypertension, pre-existing severe gastrointestinal narrowing; exercise caution when used with anticoagulants, anticonvulsants, phenylbutazone, and tricyclic antidepressants</td>
</tr>
<tr>
<td>Atomoxetine</td>
<td>MAO inhibitors within 14 days, glaucoma; may interfere with selective serotonin reuptake inhibitor metabolism (uses CYP2D6 system); drug interaction with albuterol; jaundice or laboratory evidence of liver injury</td>
</tr>
<tr>
<td>Guanfacine</td>
<td>Coadministration of guanfacine and valproic acid can result in increased concentrations of valproic acid; use caution with patients taking ketoconazole and other strong CYP3A4/5 inhibitors because elevation of plasma guanfacine concentration increases the risk of hypotension, bradycardia, and sedation</td>
</tr>
</tbody>
</table>
### Item C238B. Adverse Effects of Medications Used to Treat ADHD

<table>
<thead>
<tr>
<th>Active Ingredients</th>
<th>Adverse Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamines</td>
<td>Nervousness, decreased appetite, abdominal pain, headache, and sleep issues</td>
</tr>
<tr>
<td>Methylphenidate</td>
<td>Decreased appetite, abdominal pain, headache, and sleep issues</td>
</tr>
<tr>
<td>Atomoxetine</td>
<td>Increased risk for suicidal thoughts (black box warning); decreased appetite, abdominal pain, nausea and sleepiness, rare cases of hepatitis (reversible)</td>
</tr>
<tr>
<td>Guanfacine</td>
<td>Sleepiness and fatigue; less common side effects (occur in approximately 1%): hypotension, headache, and dizziness.</td>
</tr>
</tbody>
</table>
AAP Policy on ADHD and stimulant medications

- A targeted cardiac history and physical is performed in candidates for stimulant drugs
- Routine EKG is not indicated before starting a stimulant medication
- Consult a pediatric cardiologist IF the patient has
  - Known cardiac disease, palpitation, syncope, seizures
  - Family history of sudden death in children, HOCM, or long QT syndrome
  - Abnormalities on the cardiac examination
6. PREP 2013 Question 141

- You treat children with ADHD.
- What is MOST likely about ADHD?
  
  A. Longitudinal studies have found elevated anxiety or mood disorders among adults who have ADHD
  
  B. Males who have ADHD have a greater ability to handle stressful situations than males without ADHD
  
  C. More than 75% of children who have ADHD no longer have symptoms or need medications in adulthood
  
  D. Studies have not found a higher rate of divorce among adults who have ADHD
  
  E. Studies have not found a significant difference in the number of college-educated adults with ADHD as compare to those without ADHD
7. PREP 2013 Question 226

• You treat children with ADHD.
• Sometimes, people who don’t have ADHD get stimulant medication.
• The effect MOST likely to be experienced by those who use stimulant medication but do not have ADHD is
  A. Binge eating during evening hours
  B. Decreased sleep problems
  C. Improved attention
  D. Increased activity level
  E. Minimal effect
Resources

PREP for Boards
American Academy of Pediatrics