2ND ANNUAL CHAIRS IN PSYCHIATRY SUMMIT
The Master Class for Psychiatric Professional Development
Recognizing the Unique Faces of Adults with ADHD

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Advisory Board: None
Learning 
Objective

Improve recognition and diagnosis of ADHD in adult patients
Adult ADHD

- How has it been affected by history
  - “Psych acne” concept
  - Character flaws—is poor hearing a lazy ear?
  - Making sense of what we know about the genetics of ADHD
Diagnosing ADHD

- Disease of cortical maturation
  - Tom Insel 5-7-09

- Neuro developmental disorder

- “Quality of life” threatening disorder, not life threatening disorder
Diagnosing Adult ADHD

- Core symptoms of inattention, distractibility, and impulsivity
- Be sensitive to BOREDOM
- Importance of comorbidities
  - Anxiety
  - Depression vs. demoralization
  - Substance abuse/dependence
- Must look for life-long patterns of behavior and self-esteem
## ADHD Scales for Adults

<table>
<thead>
<tr>
<th>Symptom Scale</th>
<th>Informant</th>
<th>Rating Criteria</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD Rating Scale with adult prompts</td>
<td>Clinician Rated</td>
<td>DSM-IV-TR</td>
<td>0-3 (not at all, mild, moderate, severe) 18 items</td>
</tr>
<tr>
<td>ADHD Rating Scale-IV</td>
<td>Patient</td>
<td>DSM-IV</td>
<td>0-3 (never or rarely, sometimes, often, very often) 18 items</td>
</tr>
<tr>
<td>Adult ADHD Self-Report Screener (ASRS)</td>
<td>Patient</td>
<td>DSM-IV TR</td>
<td>0-4 (never, rarely, sometimes, often, very often) 18 items</td>
</tr>
<tr>
<td>Brown ADD Rating Scale for Adults</td>
<td>Patient</td>
<td>Series of symptom descriptors reported by high school and college students with non-hyperactive ADD</td>
<td>0-3 (never, once a week or less, twice a week, almost daily) 40 items</td>
</tr>
</tbody>
</table>

See supplemental bibliography for full references.
### ADHD Scales for Adults (cont.)

<table>
<thead>
<tr>
<th>Diagnostic Scale</th>
<th>Informant</th>
<th>Rating Criteria</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult ADHD Clinical Diagnostic Scale (ACSD) v1.2</td>
<td>Patient</td>
<td>DSM-IV TR</td>
<td>0-4 (never, mild, moderate, severe) childhood and adult symptoms, 21 items each</td>
</tr>
<tr>
<td>Conners Adult ADHD Rating Scales (CAARS)</td>
<td>Patient and/or observer</td>
<td>DSM-IV</td>
<td>0-4 (not all, just a little, pretty much, very much) 30 items</td>
</tr>
</tbody>
</table>

See supplemental bibliography for full references.
Issues to Proactively Explore with Patients

- Concerns over the diagnosis
- Concerns over “changing who I am”
- Stigma over stimulant use
- “Do I have ADHD or AM I ADHD?”
Clinical Presentation

- Usually life crisis (job, home, relationship)
- Saw an ad, talked to a friend, DTC
- Sent by significant other/family member
- Read (first few chapters at least) of ADD book or paper
- Online information (can be risky)
  - ASRS online
Clinical Populations to Further Evaluate

- Heavy smokers who have failed quit attempts
  - Started smoking early
- Excessive caffeine intake daily
- Multiple job changes
- Multiple divorces
- Under-achievers in life

None of these are diagnostic, but should raise a yellow flag of suspicion
For Objective ADHD Assessment

- Quotient™ ADHD System developed from the McLean Motion & Attention Test (MMAT)
  - Office-based, non-invasive, 15-20-minute test provides objective measures that correlate with 3 core ADHD symptoms
  - Tests for ages 6-14 yo and 15-55 yo

- FDA clearance with indication for:
  “The Quotient™ ADHD System provides clinicians with objective measurements of hyperactivity, impulsivity and inattention to aid in the clinical assessment of ADHD.” (510K #K020800)

- Measures ability to:
  - Inhibit motor activity
  - Sustain attention to visual motor task
  - Suppress impulsive responses
Key Measures

- Measures 19 clinically relevant parameters via proprietary Behavior Capture® System and compares to age- and gender-matched controls in reference database
  - 6 measures—Involuntary movements and whole movement pattern via upper and lower infrared motion analysis systems
  - 6 measures—Response characteristics, accuracy, and changes in attention/impulsivity performance on go/no-go task
  - 7 measures—Shifts in attention and behavioral state in each 30-second test segment
Accurately measures performance motion, attention, and impulsivity domains relevant to ADHD

Provides direct measurement of the same control functions assessed by conventional, subjective symptom evaluation methods currently in use
  - DSM-IV criteria
  - Symptom rating checklists

Individualized assessment, analysis, and report available in < 1 minute providing objective information for initial evaluation & ongoing management of ADHD
Motion Assessment
(> 1 mm, 50 times/second)

Non-ADHD: “single bullet in target” representing minimal position changes (10 yo)

ADHD: “shotgun” pattern of relatively large position changes (10 yo)
Dynamic Attention States in 30-Second Intervals

Individual Without ADHD

Individual With ADHD
Higher scaled scores indicated greater age adjusted deficit and are more strongly associated with the scores that patients with ADHD receive.
Treatment Issues

- This is not a disease created by pharma to sell drugs
  - Educate patients as to recent advances in understanding ADHD as a brain disease

- Data supports medications as a mainstay of treatment and necessary for optimal functioning
  - Make the brain more efficient in communicating with itself
• No data to demonstrate individual superiority of one class of medication over another—all work, just not in everyone

• Key issues are dosing, length of action, and side effects
Potential Emerging Therapies*

- qEEG (quantitative EEG)$^1$
  - Some reports of effectiveness

- Neurofeedback$^2$

- Numerous alternative therapies
  - Limited quality data

- Guanfacine—old drug, new package$^3$
  - Nonstimulant

* These treatments are not approved by the FDA

To measure effects of treatments or disease progression on impulsive behavior in psychiatric and neurological patients

By developing new computerized psychological tests for assessing impulsive behavior and executive function

- Use laptop computers with touchscreen input
- Can be administered by lay personnel
- Translation to animal models considered in design
- Tests not language-based, cross-cultural use possible

* Pending funding
Score points for good performance

Follow progress towards test completion

Accumulate points by completing questionnaires or from the objective tests to earn performance-based rewards

Clear visual and auditory feedback so the participant knows the results of each response

Animation to guide responding and increase engagement

Large, brightly colored buttons make accurate responding easy
Currently seeking grant funding

- Extend validation in young and older healthy subjects
- Test sensitivity to psychoactive drugs
- Begin systematic clinical testing in specific disorders such as ADHD, addiction, neuroAIDS

**Impulsive behavior**
- Response inhibition
- Delay of gratification
- Reflection impulsivity
- Risk taking

**Executive function**
- Control of attention
- Working memory
- Learning
- Rule following
- Planning

**Examples of Areas Covered by Current Software**

- Impulsive behavior
  - Response inhibition
  - Delay of gratification
  - Reflection impulsivity
  - Risk taking

- Executive function
  - Control of attention
  - Working memory
  - Learning
  - Rule following
  - Planning
Key to Drug Therapy

- They all work, just not in everyone
- No data to support any class is better for specific symptom (inattention, hyperactivity, impulsivity)
- Key issue is proper dosing
- Pharmacogenomics not always a good predictor
- As in all of clinical medicine, must focus on “life disabilities” and defend the phenotype
Summary

- Recognize clinical populations that raise the yellow flag
- Utilize screening and diagnostic tools in practice
- Talk with patient about neurobiological basis of adult ADHD
- Current treatments can work, need to individualize treatment
This CME/CE activity is co-sponsored by UT Southwestern Medical Center.
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Supplemental Bibliography for:

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Slide Title: ADHD Scales for Adults


Slide Title: ADHD Scales for Adults (cont.)


