

The Role of Neuropsychological Assessment in the Evaluation and Treatment of ADHD: Careful Considerations

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Overview

WHAT is a neuropsychological evaluation?

What is the **PROCESS**? What is involved in the assessment?

WHO do you go to for neuropsychological assessment?

WHEN is a neuropsychological evaluation helpful?

1. Help identify associated impairments and strengths
2. Help identify co-occurring disorders
3. Help identify appropriate recommendations

FUTURE Directions

QUESTIONS?



WHAT is a Neuropsychological Evaluation?

Neuropsychological Evaluations ≠ School Assessments

Neuropsychological Assessment

- Purpose: assess learning and behavior in relation to an individual's brain processes
 - Subspecialty of psychology
 - Integration of information and identification of cognitive strengths and weaknesses

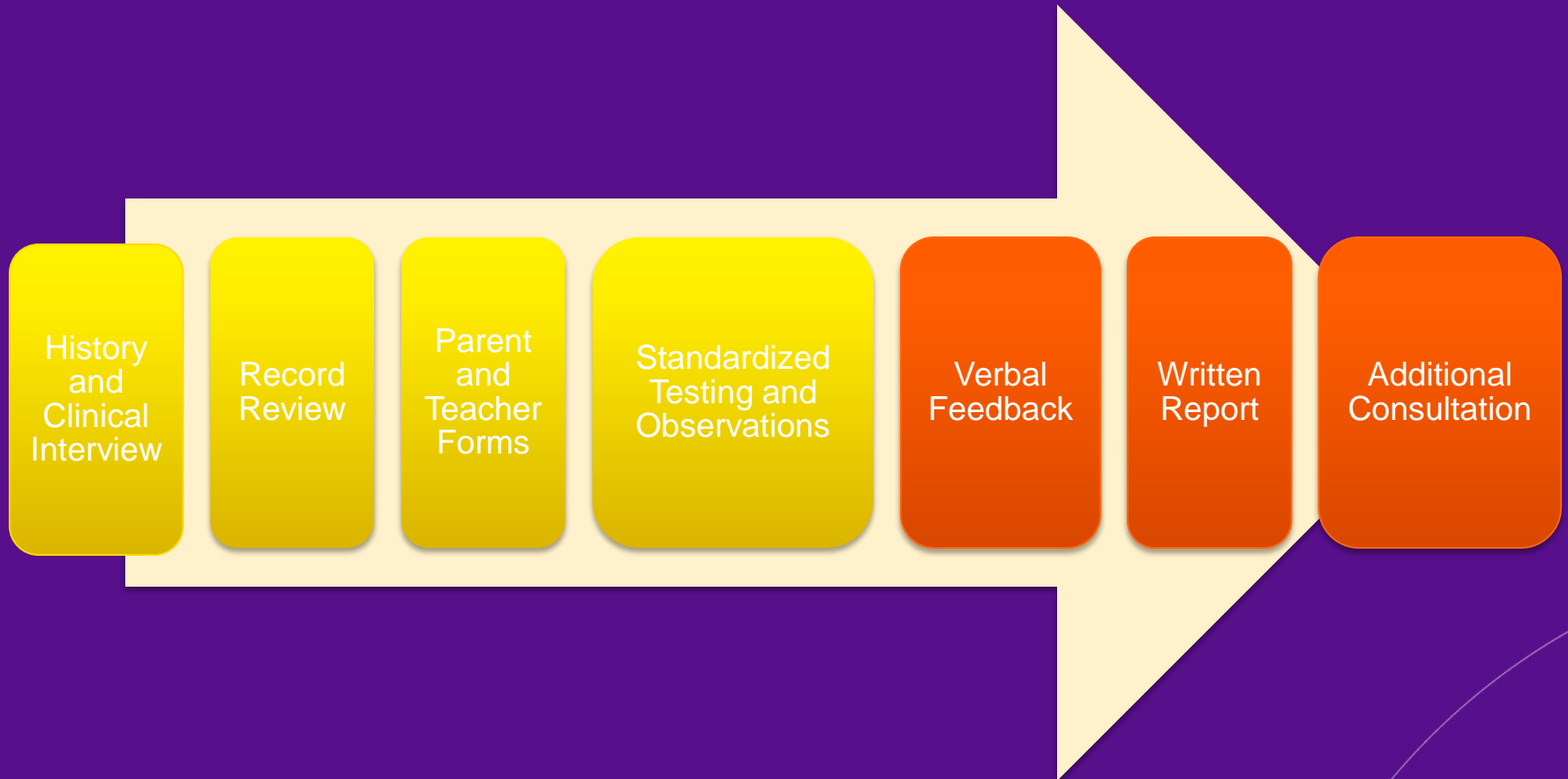
School Assessments (Psychological, Psychoeducational, Speech and Language, Occupational Therapy Evaluations)

- Purpose: identify need for school services through the IEP or 504 process
- No diagnoses
- Often conducted by a team



Evaluation PROCESS

Information **Gathering** and **Sharing**



Domains Assessed

Domain	Description
Intellectual	Ability to problem-solve
Language	Structural and functional
Memory and Learning	Verbal and visual
Attention and Executive Functions	Regulation of all actions: attention control, inhibition, planning, time management, mental flexibility, and mental control, especially working memory
Visual-spatial Skills	Perceptual reasoning, spatial knowledge
Motor Coordination	Fine and gross motor
Academic Skills	Reading, writing, math
Emotional	Emotional regulation, awareness, clinical symptoms
Social	Interpersonal relationships, social skills, adaptive skills

WHO do you go to for an evaluation?

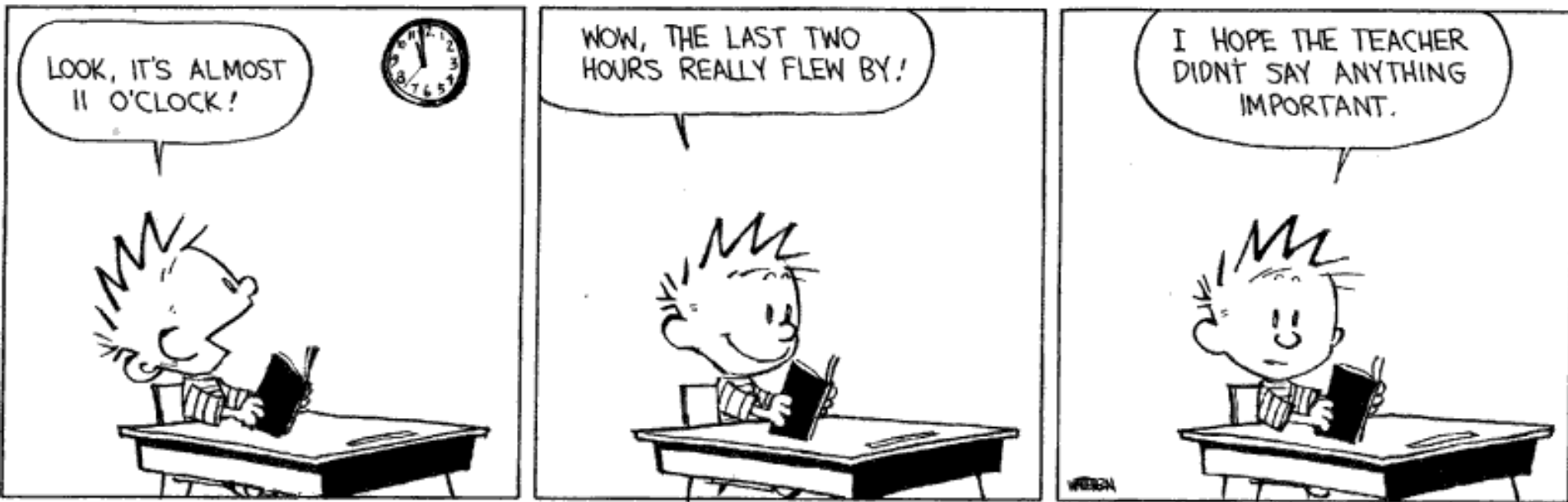


Points to Consider



- Qualifications
 - Ph.D. or Psy.D. in Psychology?
- Level of Training in Specialization
 - Graduate Coursework and Clinical Experiences?
 - Postdoctoral Fellowship?
- Areas of Expertise?
- Board Certified
 - Met criteria set forth by field

When do I get an evaluation?



Next Steps?

Calvin is an 8 year-old third grader. Concerns were noted by his teacher about his inability to focus during class. His teacher can't tell whether it is a behavior problem or out of his control. He rushes through classwork.



If concerns about attention or behavior are present, seek evaluation (primary care physician or mental health professional)

Neuropsychological assessment may be helpful but not necessary at this point

Diagnosis of ADHD: Guidelines

American Academy of Pediatrics (AAP):

1. Documentation of DSM-IV criteria
2. Evidence of core symptoms at home and school
3. Evaluation of possible coexisting conditions

American Academy of Child and Adolescent Psychiatry (AACAP):

1. Clinical interviews with parent and patient
2. Review of information about child's functioning in school
3. Evaluation of comorbid psychiatric disorders
4. Review of medical, social, and family history

Testing is Not Needed

- Diagnosis of ADHD depends upon:
 - Historical review of behaviors
 - Review of developmental course and events that have occurred in that course
 - Family history
 - Observations
 - Direct or
 - Indirect

- There is no test for ADHD:
 - Children with ADHD are variable in their responses to tests
 - Children can do well on tests
 - Executive function testing does not provide definitive information
 - ADHD and executive function deficits may reflect different problems

But, when can a neuropsychological assessment be helpful?



What about now?

Calvin is an 8 year-old third grader. Concerns were noted by his teacher about his inability to focus during class. He often makes careless mistakes. Although he is a good reader, he is still having trouble with writing in school. Also, he often acts out when required to read out loud.

Calvin is an 8 year-old third grader with a diagnosis of ADHD. His attention and behavior seem to be well controlled with medication and behavioral interventions. He is still having trouble with writing in school, in terms of both handwriting and composition.



Neuropsychological assessment is helpful when...

- There is suspicion of low cognitive abilities (e.g., intellectual skills, executive functions, language skills, motor coordination, visual-spatial skills, memory and learning)
- There is low academic achievement
- In order to differentiate among coexisting disorders (i.e., is inattention due to anxiety or ADHD or both?)
- In order to describe an individual's strengths and weaknesses to tailor recommendations and help with treatment and educational planning
- In order to increase validity of diagnostic impressions
- There are coexisting medical conditions (e.g., epilepsy)

Associated Impairments in Executive Functions in Children with ADHD

- Attention Control, Hyperactivity, and Impulsivity are the Main Components of ADHD
- These components hinder effective execution of tasks
- Attention control problems are prominent – they hinder the capacity to determine what elements of the environment should be attended to
- Behavior control problems in the form of hyperactivity can be present as well – they hinder the capacity to sustain action and stay in one place
- Impulsivity – trouble inhibiting actions makes smooth execution of actions difficult, the goal may not be able to be reached
- Other mental actions can be problematic which hinder behavior regulation
 - Critical ones include: working memory and manipulation of mental content, planning a course of action, engaging in alternative thinking or mental flexibility, and time management
 - All of these can negatively impact organization, school performance, and social interactions

Help to Identify Cognitive Strengths

- A neuropsychological assessment provides a profile of STRENGTHS and weaknesses
- Heterogeneous disorder
- Variability in cognitive profile
- More accurate cognitive profile helps in treatment and educational planning

Co-occurring Disorders

Rule rather than exception

OF children and adolescents diagnosed with ADHD,
50% Developmental Coordination Disorder
35-40% Dyslexia
60% Specific Learning Disability

Risk for anxiety disorder is approximately 7x greater
Risk for depression is approximately 8x greater
Risk for Tourette syndrome is approximately 10x greater

Pritchard, Nigro, Jacobson, & Mahone (2012).

Tailoring Recommendations

- Educational Placement
 - Type of educational setting
 - Special educational instruction or interventions
- Treatment Planning
 - Related Services
 - Psychological or psychopharmacological interventions
- Accommodations
 - Testing
 - Classroom
 - Assistive Technology
- Strategies
 - Individual
 - Teacher
 - Parent



Future Directions

Response to Treatment

Increase positive outcomes

Identifying various endophenotypes

Questions?

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