



DIFFERENTIAL DIAGNOSIS OF ADHD THROUGHOUT THE LIFESPAN

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GENERAL DISCLOSURES

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GENERAL DISCLOSURES

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PRESENTER'S DISCLOSURE: MARK A. STEIN

Source	Consultant /Advisory	Stock	Speaker	Research
Shire Takeda	X			X
NLS	X			
Genomind	X			
Supernus	X			
Tris	X			
NIMH				X
Mind Medicine	X			
Myriad	X			

PLANNER DISCLOSURES

The following series planners have no relevant conflicts of interest to disclose:

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OBJECTIVES

1. Increase familiarity with symptoms and course of ADHD throughout the lifespan
2. Review Diagnostic Criteria
3. Discuss diagnostic process, differential diagnosis, and issues in assessing adults

WHAT IS ADHD?



Inattention

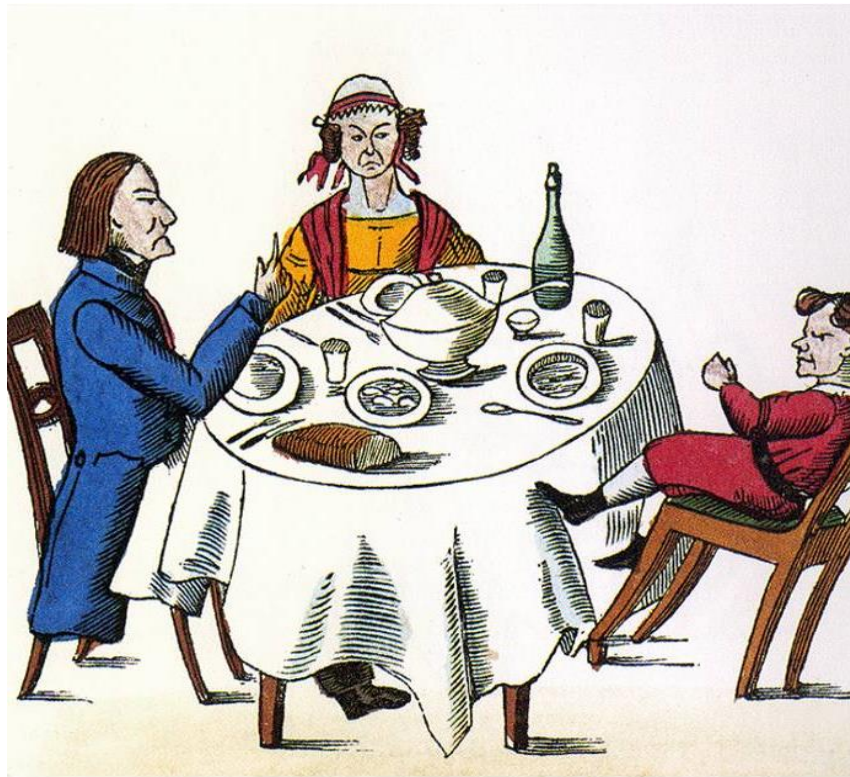
- Difficulty sustaining attention
- Trouble initiating tasks; procrastination
- Trouble completing tasks
- Loses important items
- Seems not to listen
- Cannot organize
- Easily distractible
- Forgetful
- Poor attention to detail/careless mistakes

Hyperactivity/Impulsivity

- Intrudes/interrupts others
- "On the go"/"driven by motor"
- Runs/climbs excessively
- Cannot play/work quietly
- Squirms and fidgets
- Cannot stay seated
- Talks excessively
- Blurts out answers
- Cannot wait turn



HEINRICH HOFFMAN, M.D. (1845)



ADULT ADHD

“ADHD is probably the most common chronic undiagnosed psychiatric disorder in adults. It is characterized by inattention and distractibility, restlessness, labile mood*, quick temper*, overactivity, disorganization, and impulsivity. It is always preceded by a childhood diagnosis, a disorder that is rarely inquired about and usually overlooked.”

...Paul Wender

***Not defined as core features in DSM-5**

**Wender PH. *Attention-Deficit Hyperactivity Disorder in Adults*.
New York, NY: Oxford University Press; 1995.**



REBECCA-AGE 19

- College sophomore, 2.7 GPA in business
- Diagnosed with ADHD in middle school and LD in Math
- Treated with Concerta in middle and high school stopped freshman year
- Reports daydreaming, poor sleep, trouble in stats class

BILL 32-

- Adopted at birth
- “Average” student, GED,
- Did well in military
- Recently lost job, late at completing reports
- Trouble maintaining relationships
- History of DUI’s, frequent cannabis use

PREVALENCE OF ADHD ACROSS THE LIFESPAN

- Children
 - 8-11%, depending on age and gender¹
- Adolescents
 - 75% of children with ADHD have the disorder as adolescents²
- Adults
 - National Comorbidity Survey Replication: 4.4% prevalence of ADHD among US adults³
 - Only 11% of adults with ADHD are treated³
 - Self-report measures among adults applying for a driver's license: 4.7% prevalence⁴
 - Adult college students: 4% met DSM-IV criteria for ADHD⁵

1. Visser et al., *J Am Acad Child Adolesc Psychiatry*. 2014 ; 53:34-46. 2. Wilens TE. *Psychiatr Clin North Am*. 2004;27:283-301. 3. Kessler R et al. *Am J Psychiatry*. 2006;163:716-723.
4. Barkley AR et al. *Pediatrics*. 1996;98:1089-1095.
5. Heiligenstein J et al. *Am J Coll Health*.1998; 46:185-188.

ADHD: DSM-5 CRITERIA

ADHD is classified as a neurodevelopmental disorder:

- A. Threshold level of symptoms of Inattention and/or Hyperactivity – impulsivity must be present for 6 months or more (5 in individuals \geq 17 years)
- B. Several symptoms must be present before 12 years of age
 - Current controversy – adult onset ADHD?
- C. Impairment from symptoms must be present in 2 or more settings (e.g. school, work, home, other)
- D. Significant impairment: social, academic, or occupational
- E. Symptoms must not be better accounted for by other mental (or physical) disorders

INATTENTION SYMPTOMS AND THEIR MANIFESTATION ACROSS THE LIFESPAN

Inattention-related problems and executive dysfunction represent leading reasons for seeking treatment in all age groups, and especially adolescents and adults.

DSM-5 Symptom Domain

- Difficulty sustaining attention
- Does not listen
- No follow-through
- Cannot organize
- Loses important items
- Easily distractible, forgetful

Common Adult Manifestation

- Poor time management
- Difficulty
 - Initiating/completing tasks
 - Changing to another task
 - Multi-tasking
- Procrastination
- Avoids tasks that demand attention
- Adaptive behavior can mitigate
 - Self select lifestyle; Support staff

HYPERACTIVITY SYMPTOMS AND THEIR MANIFESTATION ACROSS THE LIFESPAN

Aimless restlessness often migrates to purposeful restlessness in adolescents and adults; and is generally less impairing with age.

DSM-5 Symptom Domain

- Squirms and fidgets
- Cannot stay seated
- Runs/climbs excessively
- Cannot play/work quietly
- “On the go”/
“driven by motor”
- Talks excessively

Common Adult Manifestation

- Adaptive behavior
 - Work long hours
 - Do many activities, multiple jobs or a very active job
- Constant activity/inability to settle down
- Avoids situations requiring low activity; easily “bored”
- Often felt rather than manifested

IMPULSIVITY SYMPTOMS AND THEIR MANIFESTATION ACROSS THE LIFESPAN

Impulsivity often decreases with age, but when present, often carries serious consequences.

DSM-5 Symptom Domain

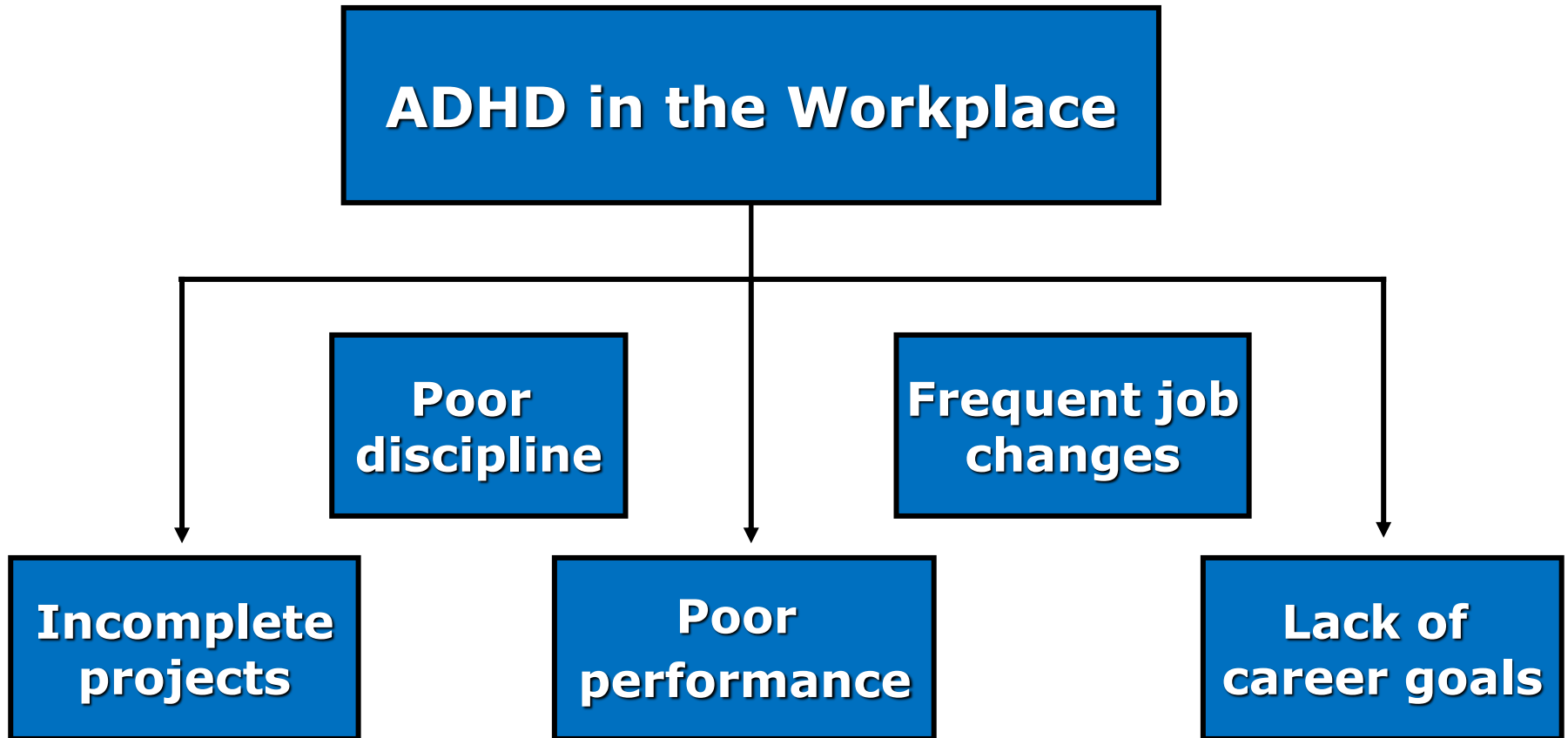
- Blurts out answers
- Cannot wait turn
- Intrudes/interrupts others

Common Adult Manifestation

- Low frustration tolerance
 - Quitting a job
 - Ending a relationship
 - Losing temper
 - Driving too fast
- Makes hasty decisions
- Impulsive aggression
 - Verbal predominates

American Psychiatric Association, 2013; *ADHD in Adulthood* 1999, Weiss, Hechtman, and Weiss.

WORKPLACE DIFFICULTIES IN ADULTS WITH ADHD



PERSISTENT SYMPTOMS OF ADHD ARE ASSOCIATED WITH POTENTIALLY SERIOUS CONSEQUENCES

Consequences of persistent inattention:

- 15–25% of children have poor academic outcome¹
- Almost 30% of ADHD subjects fail grades¹
- 46% of ADHD pupils suspended¹
- **Lower occupational attainment; lower earning across SES levels**

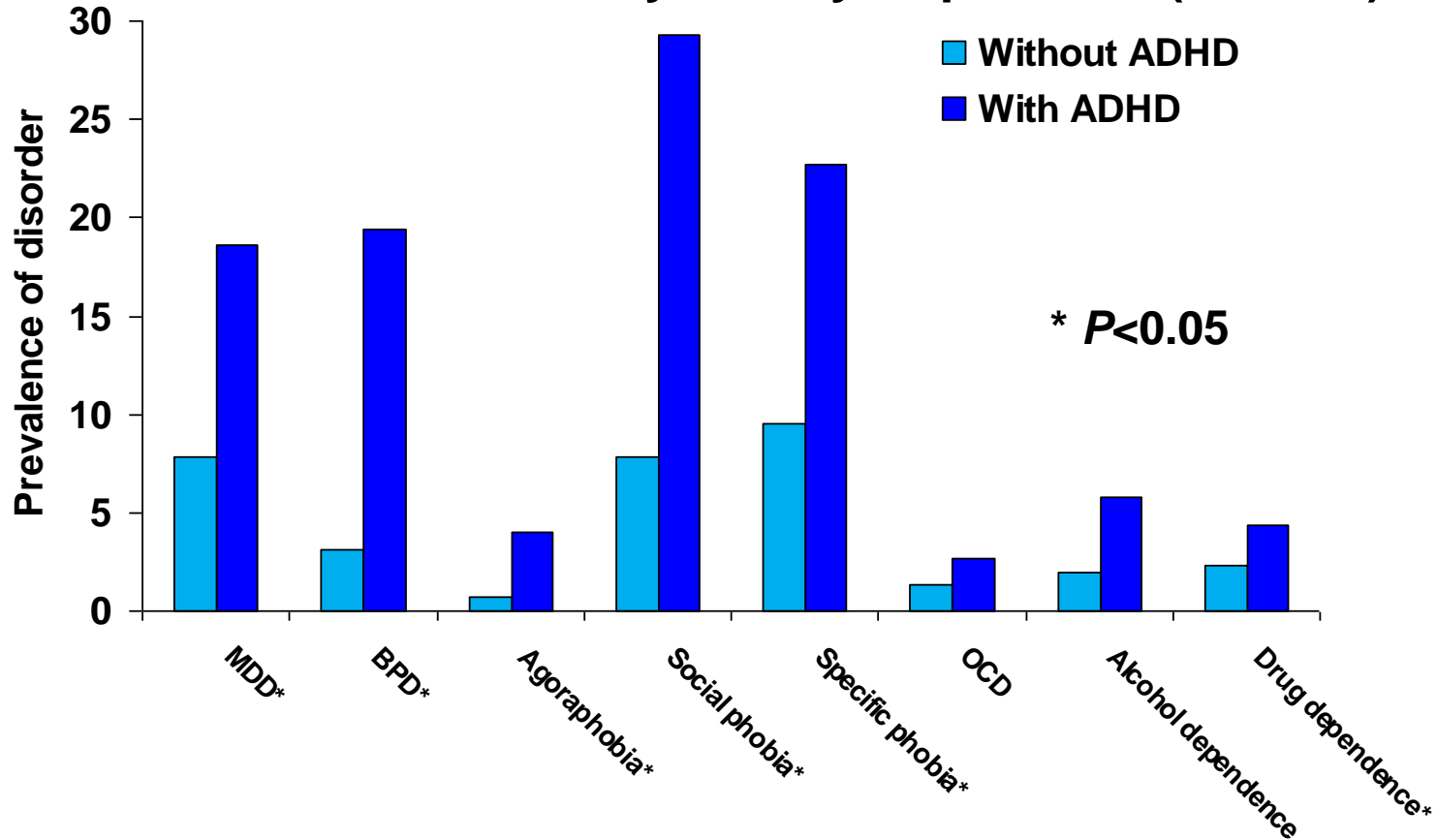
Consequences of persistent impulsivity:

- Four times as likely to have a sexually transmitted disease²
- Three times more likely to be currently unemployed²
- Twice as likely to have been divorced³
- Twice as likely to have been arrested³
- 78% more likely to be addicted to tobacco³
- Five times more likely to have their license suspended²

1. Barkley RA. *Attention-Deficit Hyperactivity Disorder. A Handbook for Diagnosis and Treatment*, 2nd ed. New York: Guilford Press;1998. Barkley RA. *J Am Acad Child Adolesc Psychiatry*. 2006;45:192-202. 3. Biederman J et al. *J Clin Psychiatry*. 2006;67:524-540.

COMORBIDITY IN ADULTS WITH ADHD

National Comorbidity Survey Replication (N=3199)



Note the prominence of mood, anxiety and substance use disorders

PSYCHIATRIC AND DEVELOPMENTAL DISORDERS IN FAMILIES OF CHILDREN WITH ATTENTION-DEFICIT HYPERACTIVITY DISORDER
NANCY J. ROIZEN, MD; THOMAS A. BLONDIS, MD; MARK IRWIN, PHD; ANDREA RUBINOFF, PHD; JOHN KIEFFER, MD; MARK A. STEIN, PHD

***ARCH PEDIATR ADOLESC MED.* 1996;150(2):203-208.**

- 140 children with ADHD And 170 children with DS, similar SES
- Family history questionnaire
- children with ADHD were significantly more likely than the control children with DS to have a parent affected by alcoholism ($P=.007$), other drug abuse ($P<.001$), depression ($P<.001$), delinquency ($P<.001$), learning disabilities ($P<.001$), and ADHD ($P<.001$).

SUMMARY: CLINICAL PRESENTATION AND BIOLOGICAL BASIS OF ADHD ACROSS THE LIFESPAN

- ADHD is a highly prevalent and impairing conditions which persists across the lifespan
 - Impairment in many functional domains beyond school
 - Often difficult to recognize in adults
 - **Most adults are not diagnosed or treated**
- Recent models of ADHD highlight the importance of symptomatic/functional domains not described in DSM
 - Expanded view of executive dysfunction
 - Mood dysregulation
 - Important roles of motivation and salience
- Studies of ADHD pathophysiology are consistent with an expanded conceptualization of ADHD
 - Important implications for diagnosis and treatment

DIAGNOSIS PROCESS IN ADULTS

SIMMS

- Current **S**ymptoms (DSM V) (harder to evaluate) + Childhood symptoms
 - Screening does not = diagnosis
- **I**mpairment (e.g., academic/vocational, social adaptive and executive functioning) usually more obvious
- **M**imics
 - Psychiatric (Wider range of psychopathology to consider)
 - Biological (Medical) (medications, thyroid, sleep)
 - Social
- Co-**M**orbidities and Associated Problems (Psychiatric (Mood, Substance Abuse), Medical)(Wider range)
 - Wender characteristics
- **S**trengths (Social, Cognitive, Familial)

ADULT ADHD

⊙ Suggested evaluation procedures:

⊙ Physical Examination and labs

⊙ Interview with patient

⊙ Review of previous medical/educational records

⊙ Corroborating data from medical or school records, parent, spouse, employer

⊙ Rating Scales (CAARS, WURS)

Medical Mimics

(PEARL, WEISS, AND STEIN, 2002 & 2012)

- Sensory impairments (hearing, vision, motor)
- Sleep deprivation, poor nutrition (breakfast)
- Medication effects (e.g., steroids, anticonvulsants)
- Chronic and acute illness (hypothyroidism, seizures)
- Genetic syndromes (Fragile X, RTH)
- Environmental toxins (Pb, FAE)
- Post-traumatic encephalopathy
- Constipation/encopresis

WHY IS EVALUATION OF ADULT ADHD COMPLEX?

- Core symptoms of ADHD are present in all individuals to some extent
 - Focus on impairment
- Comorbidity is common
 - Are symptoms from ADHD or comorbid disorder?
 - Longitudinal history is critical
- Impairment in 2 realms of life can be relative and difficult to determine
 - Especially for the high-functioning patient
- Retrospective recall of symptoms problematic
- No litmus test to verify the diagnosis

Screening Adults for ADHD

- The first 6 questions from the Adult ADHD Self-Report Scale (ASRS) correlate highly with diagnosis of ADHD.
- Individuals who note 4 or more of these symptoms at the shaded frequency levels should undergo a comprehensive assessment for ADHD

Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist

Patient Name	Today's Date				
Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.					
	Never	Rarely	Sometimes	Often	Very Often
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?					
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?					
3. How often do you have problems remembering appointments or obligations?					
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?					
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?					
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?					

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The complete ASRS can be used to identify other ADHD symptoms during diagnosis and treatment. It can be found at www.med.nyu.edu/psych/psychiatrist/adhd.html.

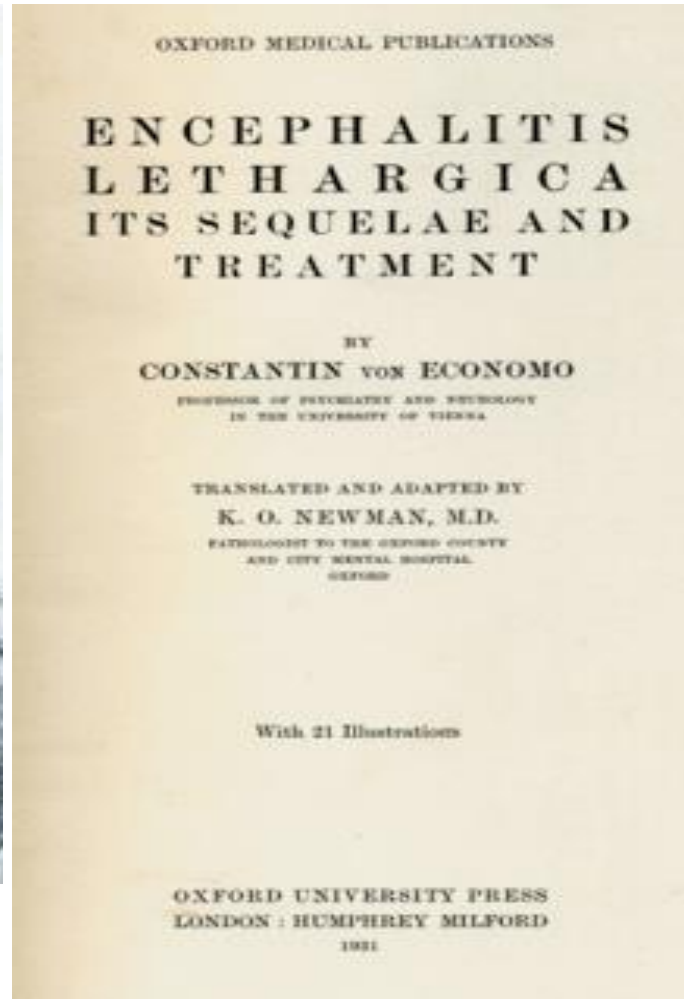
ADULT ADHD: SYMPTOM ASSESSMENT SCALES

Scale	Description/ Features/ Comments	Scale available from:
Brown ADD Scale	Rates inattention/executive dysfunction; items extend beyond DSM definition of ADHD; good for high functioning adults with inattentive subtype	<i>The Psychological Corporation</i>
Conners Adult ADHD Rating Scale (CAARS)	Large item set of developmentally relevant items; DSM subscale maps onto diagnosis; self- and other-report forms	<i>Multi Health Systems, Inc.</i>
Wender-Reimherr Adult Attention Deficit Disorder Scale	Retrospective symptom scales provide age of onset data; less clearly tied to DSM-IV ADHD.	<i>Fred W. Reimherr, MD, Department of Psychiatry, University of Utah Health Science Center, Salt Lake City, Utah</i>
Barkley's Current Symptoms Scale	Dimensional scale; uses actual DSM items but not re-worked for adults; rates behavior in the past 6 months; self and other informant reports.	<i>Barkley RA, Murphy KR. Attention-Deficit Hyperactivity Disorder: A Clinical Workbook. Second Edition.</i>
Adult Self-Report Scale v1.1 (18-item symptom assessment and 6-item screener)	ADHD DSM items made developmentally relevant for adult manifestations of symptoms; rates frequency, not severity, on a 0 - 4 scale	<i>www.med.nyu.edu/Psych/training/adhd.html and the WHO website</i>
Adult Investigator Symptom Report Scale (AISRS)	Interviewer administered scale; 18 DSM-IV-TR ADHD criteria re-worked for adults; employs adult ADHD prompts to ensure adequate probing of breadth of adult symptoms.	<i>Lenard Adler, MD, Adult ADHD Program NYU School of Medicine adultADHD@med.nyu.edu</i>

INDICATIONS FOR PSYCHOLOGICAL OR NEUROPSYCHOLOGICAL TESTING

- Learning Disorder (Reading Disability, Coordination Disorder)
 - College students, accommodations
- Cognitive deterioration in older adults
- Appropriate expectations, career planning
- Not indicated for diagnosis of ADHD

CONSTANTIN VON ECONOMO, 1917



The somnolent type, somnolence leading to coma & death, paralysis of cranial nerves, extremities & expressionless faces.

The Hyperkinetic type, with restlessness, motor disturbances as twitching of muscle groups, involuntary movements, anxious mental state & insomnia.

The amyostatic-akinetic form, often led to a chronic state similar to Parkinson's disease.

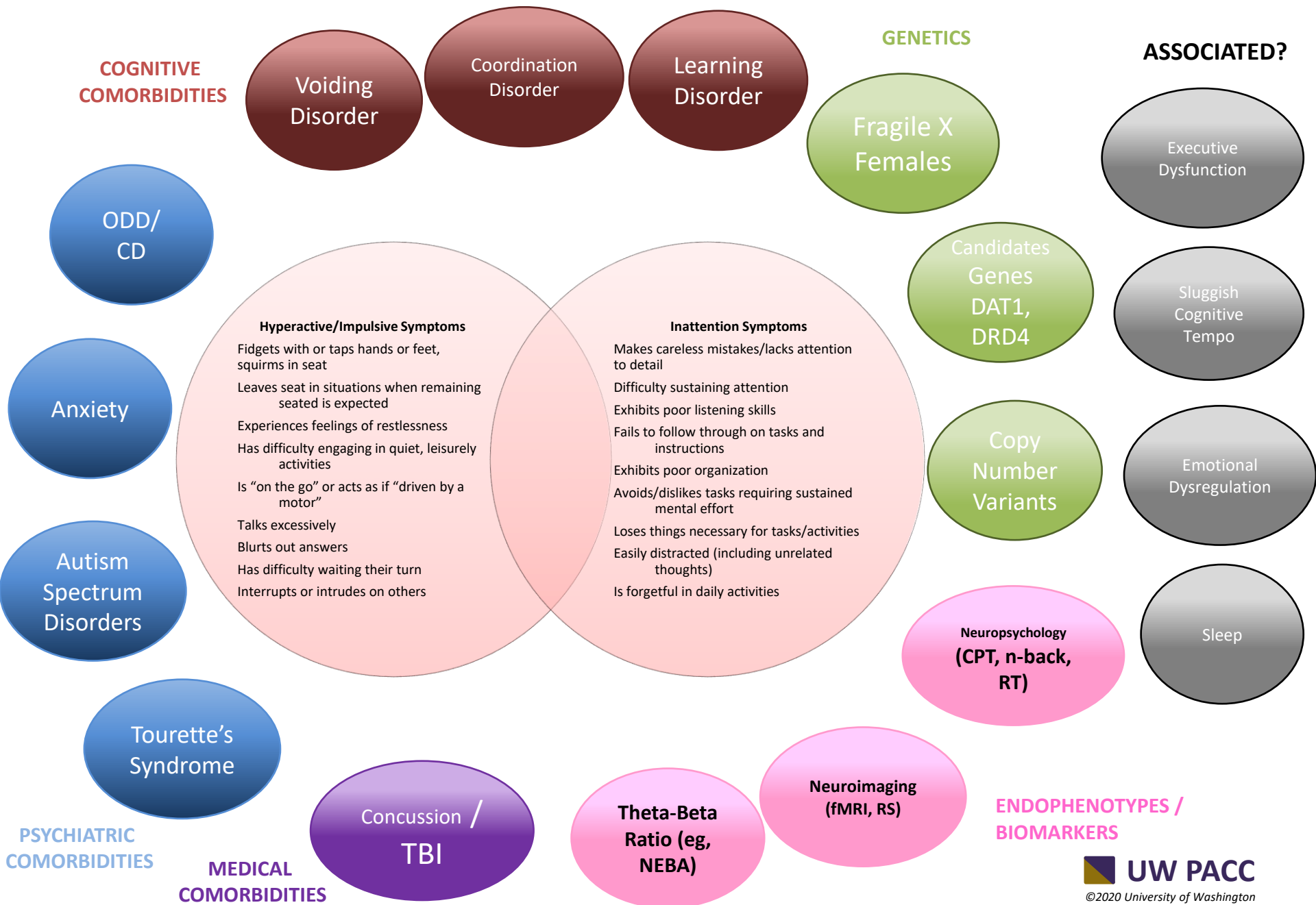
UW PACC REGISTRATION

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If you have not yet registered, please email uwpacc@uw.edu so we can send you a link.

OPTIONAL SLIDES

ADHD Etiological and Diagnostic Heterogeneity: Targets for Treatment



No ADHD without Impairment

Evaluate the burden of symptoms

- Does it show up differently in roles or contexts?
- Is it an effort to compensate for?

Consider impairment relative to potential

How would individual function if symptoms resolved?

Is there mismatch with role/environment?

Would change in role or environment remedy?

Is concern exaggerated?

workaholic / perfectionistic / inaccurate self-evaluation

Accommodate, don't Enhance

For Core ADHD Symptoms: list medication options that could improve core ADHD symptoms (new agent, dose change, cover longer duration)

For Improved Organization: List critical situations where better habits (decisions or actions) can be practiced (e.g., taking time to prioritize/plan; more reliance on others or electronic devices; using reminders; isolating from lower priority distractions).

For Adherence: List what will ensure practice of the treatment plan. Consider factors in past success (e.g., deadlines, reminders, tracking, involving others, other accountability).

For Environmental Accommodation: List accommodations, e.g.: for weaknesses (e.g., extra time to check work, recording meetings/class); to make tasks more engageable (e.g., clearer steps/goals, better match to interests); for accountability (e.g., involving others, deadlines); for work space (lower distraction).
