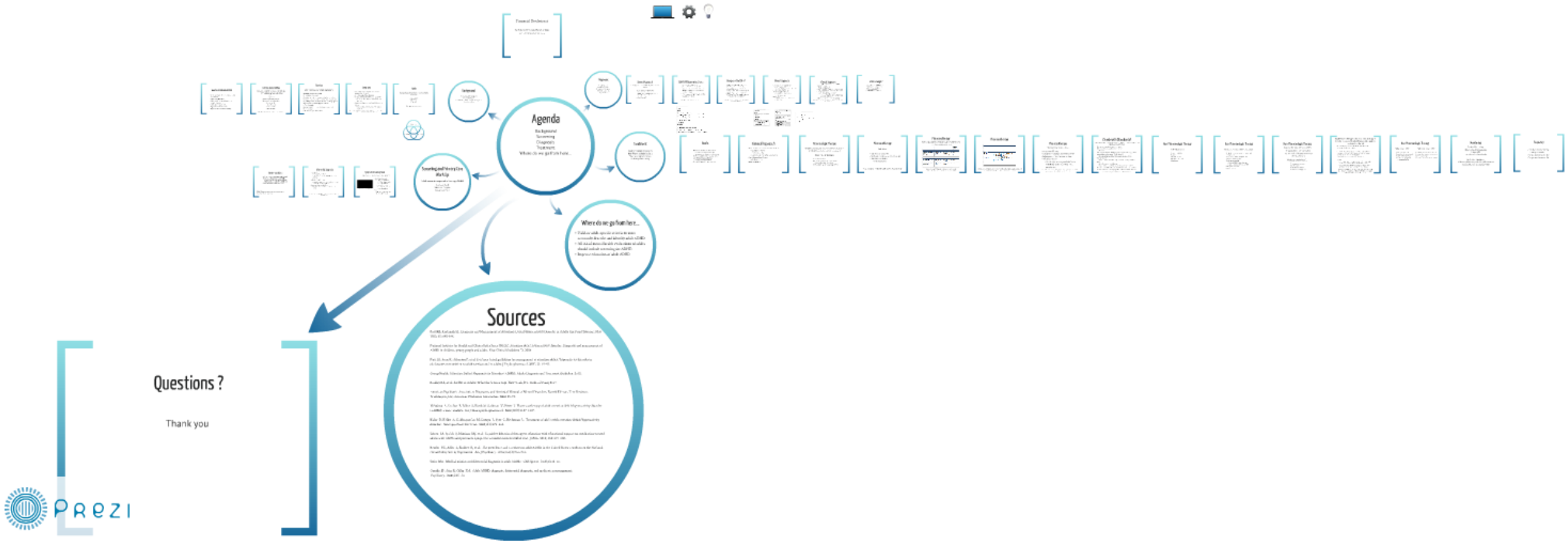
Attention Deficit Hyperactivity Disorder in Adults

Anthony Aiudi
RISHP Winter CE Program
1.11.14



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Financial Disclosures

No Relevant Financial Relationships
with Commercial Interests

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Agenda

Background
Screening
Diagnosis
Treatment
Where do we go from here...

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Background

Persistent CORE Symptoms
Impaired function
Comorbidities which complicate diagnosis
Results of ADHD

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ADHD

Heterogeneous behavioral syndrome of CORE symptoms

Hyperactivity

Impulsivity

Inattention

One symptom can dominate

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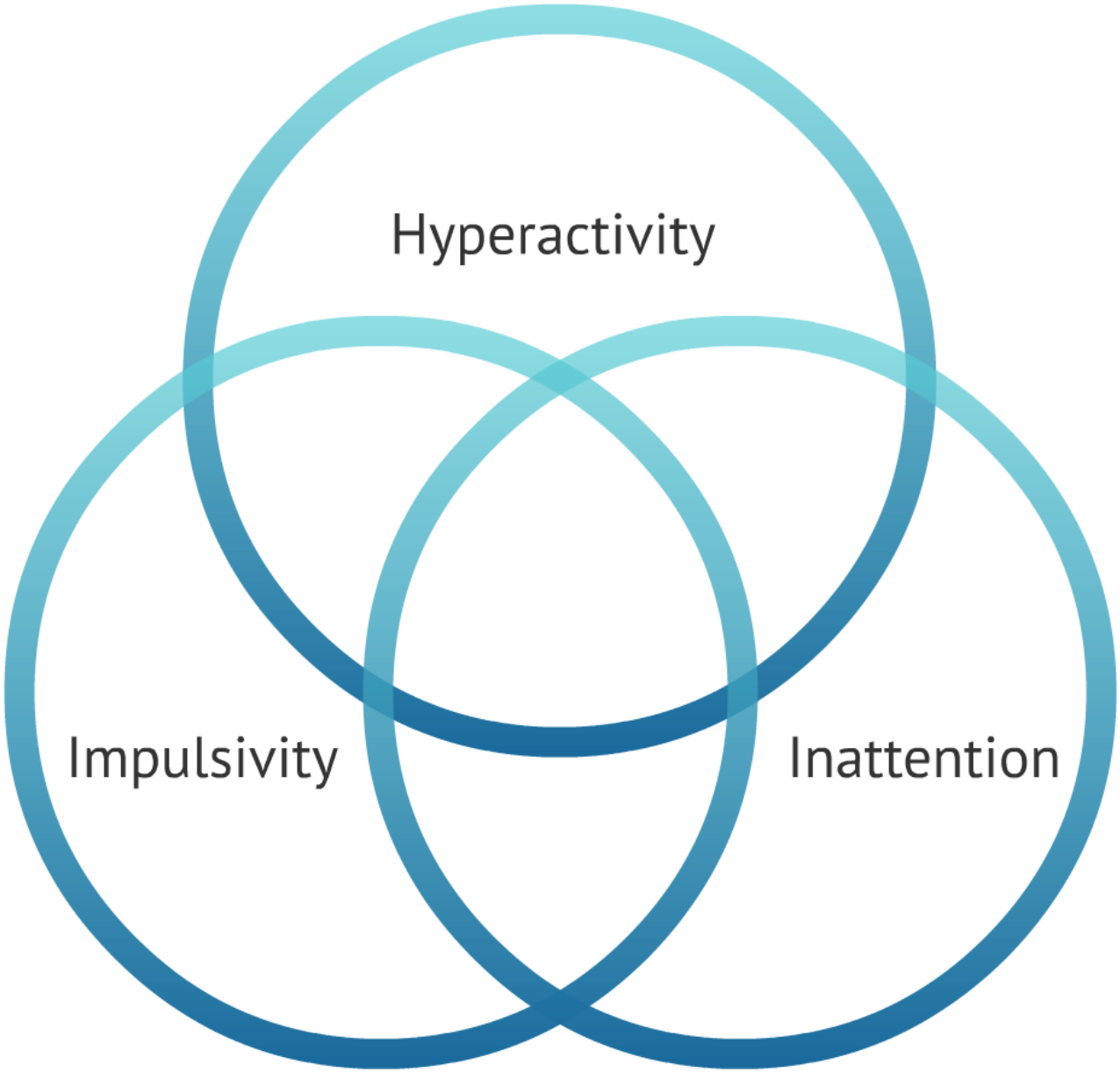

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Symptoms

- 30% of children with ADHD have persistent symptoms into adulthood
- 15% retain most of their symptoms
- 3-4% of adults meet DSM-IV criteria for ADHD
  - 20-50% of adults have traits but not sufficient for diagnosis
- Symptoms of hyperactivity and impulsivity tend to decrease
  - Attention deficit most likely CORE symptom to persist

Kessler RC, Adler L, Barkley R, et al. The prevalence and correlates of adult ADHD in the United States: results from the National Comorbidity Survey Replication. Am J Psychiatry. 2006;163(4):716–723.

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Function

Manifestations of CORE Symptoms

- Difficulty getting started on tasks
- Variable attention to details
- Difficulties with self-organization and with prioritization
- Poor persistence in tasks that require sustained mental effort
- Impulsivity and low frustration tolerance (to varying degrees)
- Hyperactivity (less salient symptom in adults)
- Chaotic life-styles
- Associated psychiatric comorbidities (in some patients)
- Disorganization
- Substance abuse (in some patients)

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Common Comorbidities

More than 80% have comorbidities

3-7 fold rate of comorbidities

Anxiety

Depression

Antisocial personality disorder

Neurodevelopmental disorders

Bipolar disorder

Substance misuse

Mood disorders

Sleep disorders

Stein MA. Medical mimics and differential diagnosis in adult ADHD. CNS Spectr. 2008;13:14–16.

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Results of Untreated ADHD

- Lower paying jobs, more job changes, trouble with finances
- More relationship issues
- More sexually transmitted diseases and unwanted pregnancies
- More psychological distress
- Higher rate of substance abuse
- Higher incidence of criminal activity

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Screening and Primary Care Work Up

Adult patients suspected of having ADHD

Screening Tools

Differential Diagnosis

Recommendations

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Symptom Screening Tools

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

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?					

World Health Organization (WHO). Adult ADHD Self-Report Scale (ASRS-v1.1). 2004.

Part A (Primary Screening)

- 0-3 marks in shaded boxes
  - ADHD unlikely; no need for additional evaluation
- 4+ marks in shaded boxes
  - ADHD possible; need for additional evaluation

Part B

- Additional cues into symptoms
- Will review in Diagnosis

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

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World Health Organization (WHO). Adult ADHD Self-Report Scale (ASRS-v1.1). 2004.

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Differential Diagnosis

- Comorbidities
  - Depression (PHQ-2 / PHQ-9)
  - Alcohol and/or drug misuse or diversion (AUDIT / DAST-10)
  - Anxiety (GAD-7)
- Rule out other medical diagnoses
  - hearing impairment, thyroid disease, lead toxicity, hepatic disease, sleep apnea, and drug interactions.
- Medications that impact attentiveness
  - steroids, antihistamines, anticonvulsants, caffeine, and nicotine

Gentile JP, Atiq R, Gillig PM. Adult ADHD: diagnosis, differential diagnosis, and medication management. Psychiatry. 2006;3:25–30.

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Recommendations

- All initial primary mental health evaluations of adults should include screening for ADHD
  - More common than Schizophrenia, Bipolar Disorder, and Generalized Anxiety Disorder
- Genetic component to disorder: 15-40%

Joseph Biederman
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Massachusetts General Hospital
Professor of Psychiatry at the Harvard Medical School

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Diagnosis

General Approach
DSM-IV vs. DSM-V
Requirement of Diagnosis
Diagnostic Approaches
Improvements

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General Approach

Diagnosis is typically made by a mental health provider or primary care provider

Adult Diagnosis based on:

- comprehensive clinical and psychosocial assessment
- Impact of symptoms on functioning
- Developmental history
- Review of rating scales

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DSM-IV-TR Diagnostic Criteria

- 6 or more symptoms in domains 1 or 2
- Impairment was present before age seven years.
- Present in two or more settings (at school/work and at home).
- Clinically significant impairment in social, academic, or occupational functioning.
- The symptoms do not occur exclusively during the course of other psychotic disorder and are not better accounted for by another mental disorder

Development was focused on children and adolescents

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Table 1 - DSM-IV diagnostic criteria for ADHD

A. Either 1 or 2

(1) six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention:

a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities

b) often has difficulty sustaining attention in tasks or play activities

c) often does not seem to listen when spoken to directly

d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)

e) often has difficulty organizing tasks and activities

f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)

g) often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)

h) is often easily distracted by extraneous stimuli i) is often forgetful in daily activities (2) six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity:

a) often fidgets with hands or feet or squirms in seat

b) often leaves seat in classroom or in other situations in which remaining seated is expected

c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)

d) often has difficulty playing or engaging in leisure activities quietly

e) is often "on the go" or often acts as if "driven by a motor"

f) often talks excessively

Impulsivity:

g) often blurts out answers before questions have been completed

h) often has difficulty awaiting turn

i) often interrupts or intrudes on others (e.g., butts into conversations or games)

B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before 7 years of age.

C. Some impairment from the symptoms is present in 2 or more settings (e.g., at school [or work] or at home).

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of a pervasive developmental disorder, schizophrenia, or other psychotic disorder and are not better accounted for by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, or personality disorder).

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Changes in the DSM-V

- Examples have been added to the domain criterias
- “Several” symptoms required in each setting
- “Several inattentive or hyperactive-impulsive symptoms were present prior to age 12”
- Subtypes have been replaced with presentation specifiers
- Comorbid diagnosis with autism spectrum disorder
- Adult threshold for ADHD is now five symptoms
- Finally, ADHD is now a "neurodevelopmental disorders"
    - brain developmental correlates with ADHD

American Psychiatric Association. Highlights of Changes from DSM-IV-TR to DSM-5. American Psychiatric Association. 2013

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Clinical Diagnosis

- Assess current clinical and psychosocial status
  - Severity in multiple settings
    - Adult ADHD Rating Scale-IV (Barkley Adult ADHD Rating Scale [BARRS IV])
- Establish developmental history of ADHD
  - If no diagnosis prior to 12 years of age
    - retrospection of 18 DSM-IV-TR criteria
    - Collect observer reports
- Psychiatric history
  - Rule out other disorders or to establish the presence of comorbid disorders

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BAARS-IV: Self-Report: Current Symptoms

Name: _____ Date: _____

Sex: (Circle one) Male Female Age: _____

Instructions

For the first 27 items, please circle the number next to each item below that best describes your behavior **DURING THE PAST 6 MONTHS**. Then answer the remaining three questions. Please ignore the sections marked "Office Use Only."

Section 1 (Inattention)	Never or rarely	Some-times	Often	Very often
1. Fail to give close attention to details or make careless mistakes in my work or other activities	1	2	3	4
2. Difficulty sustaining my attention in tasks or fun activities	1	2	3	4
3. Don't listen when spoken to directly	1	2	3	4
4. Don't follow through on instructions and fail to finish work or chores	1	2	3	4
5. Have difficulty organizing tasks and activities	1	2	3	4
6. Avoid, dislike, or am reluctant to engage in tasks that require sustained mental effort	1	2	3	4
7. Lose things necessary for tasks or activities	1	2	3	4
8. Easily distracted by extraneous stimuli or irrelevant thoughts	1	2	3	4
9. Forgetful in daily activities	1	2	3	4
Office Use Only (Section 1) Total Score_____ Symptom Count_____				
Section 2 (Hyperactivity)	Never or rarely	Some-times	Often	Very often
10. Fidget with hands or feet or squirm in seat	1	2	3	4
11. Leave my seat in classrooms or in other situations in which remaining seated is expected	1	2	3	4
12. Shift around excessively or feel restless or hemmed in	1	2	3	4
13. Have difficulty engaging in leisure activities quietly (feel uncomfortable, or am loud or noisy)	1	2	3	4
14. I am "on the go" or act as if "driven by a motor" (or I feel like I have to be busy or always doing something)	1	2	3	4
Office Use Only (Section 2) Total Score Symptom Count_____				

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Section 3 (Impulsivity)	Never or rarely	Some-times	Often	Very often
15. Talk excessively (in social situations)	1	2	3	4
16. Blurt out answers before questions have been completed, complete others' sentences, or jump the gun	1	2	3	4
17. Have difficulty awaiting my turn	1	2	3	4
18. Interrupt or intrude on others (butt into conversations or activities without permission or take over what others are doing)	1	2	3	4
Office Use Only (Section 3) Total Score _____ Symptom Count _____				
Section 4 (Sluggish Cognitive Tempo)	Never or rarely	Some-times	Often	Very often
19. Prone to daydreaming when I should be concentrating on something or working	1	2	3	4
20. Have trouble staying alert or awake in boring situations	1	2	3	4
21. Easily confused	1	2	3	4
22. Easily bored	1	2	3	4
23. Spacey or "in a fog"	1	2	3	4
24. Lethargic, more tired than others	1	2	3	4
25. Underactive or have less energy than others	1	2	3	4
26. Slow moving	1	2	3	4
27. I don't seem to process information as quickly or as accurately as others	1	2	3	4
Office Use Only (Section 4) Total Score _____ Symptom Count _____				
Total Scores for Entire Scale: Sum of Sections Raw Scores 1–3—Total ADHD Score _____ Section 1 Symptom Count _____ Sum of Sections 2 and 3 Symptom Counts _____ Total ADHD Symptom Count _____ (Sum of 1–3) SCT Symptom Count _____				

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Section 5

28. Did you experience *any* of these 27 symptoms at least "Often" or more frequently (Did you circle a 3 or a 4 above)? **No** **Yes** (Circle one)

29. If so, how old were you when those symptoms began? (Fill in the blank)
    I was _____years old.

30. If so, in which of these settings did those symptoms impair your functioning? Place a *check mark* (✓) next to all of the areas that apply to you.

_____ School

_____ Home

_____ Work

_____ Social Relationships

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Clinical Diagnosis

- Obtain family history for ADHD, drug use, criminal behavior, ect.
- Rule out learning disability
  - referral for assessment
- Perform physical examination to eliminate medical causes
  - contraindications of stimulant therapy (CV risk factors)
- Use other rating scales
  - No validated adult rating scales to date
    - ASRS-v1.1, Achenback adult rating scales, Connors Adult ADHD Rating Scales, Brown Attention-Deficit Disorder Scale for Adults
- Brain imaging is not recommended for diagnosing

Murphy KR, Adler LA. Assessing attention-deficit hyperactivity disorder in adults: Focus on rating scales. J Clin Psychiatry. 2004; 65: 12–7.

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Is this enough ?

- Need to validate adult modified scales
- Modify inattention and hyperactivity symptoms in diagnostic material
- Track treatment response
- Simplify diagnosis for practitioner

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Treatment

Goals and General Approach
Non-Pharmacologic Options
Pharmacological Options
Follow-up/Monitoring

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Goals

- Minimize the impact of ADHD symptoms
  - enhance attention, improve academic performance, and improve working memory
- Maximize the patient's ability to compensate or cope with any remaining difficulties
  - treating comorbid conditions
- Partnership between HC team and patient

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General Approach

- Treat the more severe comorbid disorder first
  - Severity and Timing
    - Chicken vs. Egg
  - Continue on to treat other comorbidities
- Non-Pharmacologic Therapy
  - ADHD education
- Pharmacotherapy

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Non-Pharmacologic Therapy

ADHD Education

- Properties of ADHD
- Diagnosis
- Treatment Options
- Strategies for Successful Management

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Non-Pharmacologic Therapy

Strategies for successful management

- Establish structure to help initiate, engage, and complete tasks
- Tools to assist them with organization
- Vocation and hobby choice
- Social support network
  - Community-based support groups
  - Cognitive Behavioral Therapy (CBT)
- Manage substance use
- Healthy lifestyle

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Non-Pharmacologic Therapy

Cognitive Behavioral Therapy (CBT)

Structured short term approach to improve core ADHD symptoms through skill development

Modules consisting of...

- Organization and planning
- Problem-solving
- Distraction management
- Procrastination management

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Cognitive behavioral therapy vs relaxation with educational support for medication-treated adults with ADHD and persistent symptoms: a randomized controlled trial

- 86 patients randomized to 12 individual sessions of either CBT or relaxation with educational support

- Primary outcome: ADHD symptoms rated by an assessor (ADHD rating scale and Clincial Global Impression scale) at baseline, post treatment, and follow-up (6 and 12 months)
- Secondary Outcome: self-report of ADHD symptoms

- Results
  - CBT achieved lower post treatment scores on both rating scales (CGIS P=0.03; ADHDRS P=0.02) compared to relaxation
  - CBT achieved lower self-reported symptoms (P<0.001) during and post treatment compared to relaxation and education

Safren SA, Sprich S, Mimiaga MJ, et al. Cognitive behavioral therapy vs relaxation with educational support for medication-treated adults with ADHD and persistent symptoms: a randomized controlled trial. JAMA. 2010; 304: 875–880.

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Non-Pharmacologic Therapy

Why initiate CBT

- Ineffective coping skills
- Repeated failed experiences and chronic under achievement
- Avoidance of coping efforts
    - comorbid disorders

When to initiate CBT

- In combination with pharmacotherapy
- Informed choice not to use medications
- Intolerant/adherence
- Comorbid conditions that could benefit

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Pharmacologic Therapy

Should be considered 1st line with CBT for adults with ADHD with moderate or severe impairment

Prior to Initiation

- PMH of cardiac history
- Most studies focus on medication in children
  - Recent studies using adult patients
- Inform of psychological and physiological risks

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Pharmacotherapy

Initiation

- Start low and titrate slow
- Maximize dose before substitute therapy
- Stimulants vs. placebo
    - Anti-depressants

Mészáros A, Czobor P, Bálint S, Komlósi S, Simon V, Bitter I. Pharmacotherapy of adult attention deficit hyperactivity disorder (ADHD): a meta-analysis. Int J Neuropsychopharmacol. 2009;12(8):1137–1147.

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Pharmacotherapy

D4 dopamine receptor gene (DRD4 7)

react less strongly to dopamine

Medication	Initial Dose	Titration Schedule	Maximum recommended daily dose
1st line			
Amphetamine mixed salts (Adderall XR)	10 mg daily in the morning	Increase by 10 mg every 7 days PRN	60 mg
Lisdexamfetamine (Vyvanse)	30 mg daily in the morning	increase by 10-20 mg daily PRN	70 mg
IR medications could be used but not prefered			
1st line			
Methylphenidate HCL ER	10 mg daily in the morning	Increase by 10 mg every 7 days PRN	60 mg
Methylphenidate HCL ER (generic Concerta)	18 mg daily in the morning	Increase by 18 mg every 6 days PRN	72 mg
Dextroamphetamine SR	10 mg daily in the morning	Increase by 10 mg every 7 days PRN (dose twice	40 mg

Faraone SV, Biederman T, Weiffenbach B, et al. Dopamine D4 gene 7-repeat allel and attention deficit hyperactivity disorder. Am J Psychiatry. 1999; 156: 768–70.

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Pharmacotherapy

Medication	Initial Dose	Titration Schedule	Maximum recommended daily dose
1st line			
Atomoxetine (Strattera)	40 mg daily in the morning	Increase to 80 mg after ≥ 3 days. Increase to 100mg after 2-4 additional weeks PRN	100 mg
Alternatives			
Bupropion IR	100 mg twice daily for 7 days, then 100 mg three times daily	After 4 weeks at 100 mg three times daily, increase to 150 mg three times daily	450 mg
Bupropion SR	150 mg daily in the morning for 7 days, then 150 mg twice daily	After 4 weeks at 150 mg twice daily, increase to 200 mg twice daily	400 mg
Bupropion XR	150 mg daily in the morning	After 4 weeks at 150 mg daily, increase to 300 mg daily	450 mg
Desipramine	200mg daily		

Mészáros A, Czobor P, Bálint S, Komlósi S, Simon V, Bitter I. Pharmacotherapy of adult attention deficit hyperactivity disorder (ADHD): a meta-analysis. Int J Neuropsychopharmacol. 2009; 12: 1137–1147.

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Pharmacotherapy

Short-acting formulations

- supplemental dosing
- management of symptoms as-needed basis
- higher potential for diversion or abuse
- Patient satisfaction
  - 40-50% of patients reported satisfaction with IR medication vs. 70% with LA formulations

Kolar D, Keller A, Golfinopoulos M, Cumyn L, Syer C, Hechtman L. Treatment of adults with attention-deficit/hyperactivity disorder. Neuropsychiatr Dis Treat. 2008;4(2):389–403.

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CV risk with Stimulants?

ADHD Medications and Risk of Serious Cardiovascular Events In Young and Middle-Aged Adults Study

- Retrospective, population-based cohort study
- Computerized health records from 4 study sites
  - 1986-2007
- Adults aged 25–64 years with dispensed prescriptions for methylphenidate, amphetamine, or atomoxetine (150,539 patients)
  - Each patient was matched to two non-users at each study site
- Primary Outcome
  - Serious cardiovascular events (MI, sudden cardiac death, or stroke.)
- Results
  - 806,182 person-years of follow-up
  - adjusted RR was 1.03 (95% CI, 0.86-1.24) for current vs. remote use
- Current use of ADHD medications, compared with non-use or remote use, was not associated with an increased risk of serious cardiovascular events.

Habel LA, Cooper WO, Sox CM, et al. ADHD medications and risk of serious cardiovascular events in young and middle-aged adults. JAMA. 2011; 306.

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Monitoring

Patient Monitoring

Behavioral and functional goals

6-item ASRS

Any other self or clinical scales

Medication Monitoring

Adherence, effectiveness, side effects, adverse impact on sleep, behavior, appetite, and weight

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Frequency

- Initially and while titrating
  - Every 3-4 weeks
- Every 3 months until stable
- Every 6 months once stable

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Where do we go from here...

- Validate adult-specific criteria to more accurately describe and identify adult ADHD
- All initial mental health evaluations of adults should include screening for ADHD
- Improve education of adult ADHD

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Sources

Post RE, Kurlansik SL. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults Am Fam Physician. May 2012; 85: 890-896.

National Institute for Health and Clinical Excellence (NICE). Attention deficit hyperactivity disorder: Diagnosis and management of ADHD in children, young people and adults. Nice Clinical Guideline 72. 2008

Nutt DJ, Fone K, Asherson P, et al. Evidence-based guidelines for management of attention deficit/hyperactivity disorder in adolescents in transition to adult services and in adults. J Psychopharmacol. 2007; 21: 10-41.

Group Health. Attention Deficit Hyperactivity Disorder (ADHD): Adults Diagnosis and Treatment Guideline. 2012.

Barkley RA, et al. ADHD in Adults: What the Science Says. New Youk, NY. Guilford Press; 2007

American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision. Washington, DC, American Psychiatric Association. 2000: 85-93.

Mészáros A, Czobor P, Bálint S, Komlósi S, Simon V, Bitter I. Pharmacotherapy of adult attention deficit hyperactivity disorder (ADHD): a meta-analysis. Int J Neuropsychopharmacol. 2009;12(8):1137–1147.

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Questions ?

Thank you

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