



# ADD/ADHD

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## A life-long neuropsychiatric disorder

- School age children
  - 8-10% prevalence
  - 9.2% males; 2.9% females

## In adults:

- Prevalence of adult ADHD: 4.4%
- Precedence of full ADHD at age 25: 15%
- Partial remission: 40-60%

## Diagnostic criteria for Attention-Deficit/Hyperactivity Disorder

### 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 or 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 age 7 years.
- C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and 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 Development 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 a Personality Disorder).

Code based on type:

**314.01 Attention-Deficit/Hyperactivity Disorder, Combined Type:**

if both Criteria A1 and A2 are met for the past 6 months

**314.00 Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type:**

if Criterion A1 is met but Criterion A2 is not met for the past 6 months

**314.01 Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type:**

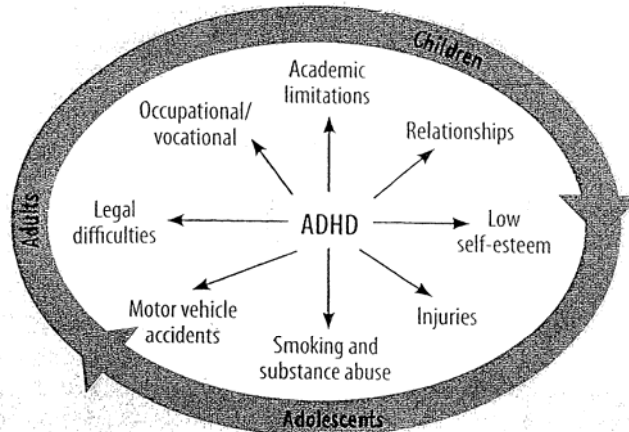
if Criterion A2 is met but Criterion A1 is not met for the past 6 months

## ADHD Clinical Presentation in Adolescence and Adulthood

Adolescence	Adulthood
Inner sense of restlessness vs. hyperactivity	Inattention/concentration problems
Schoolwork disorganized/poor follow-through/fails to work independently	Disorganized/fails to plan ahead
Risky behaviors (speeding)	Forgetful, loses things
Poor self-esteem	Difficulty judging time to initiate, finish tasks
Poor peer relationships	Makes impulsive decisions
Difficulty with authority figures	Job instability or marital difficulties

Source: Data from Wilens, TE, & Dodson, W.

## Potential Areas of Impairment



## ADHD Comorbidity

- Anxiety disorder 43-53%
- Major depressive disorder 31%
- ODD 29%
- CD 20%
- Alcohol dependence 27%
- Drug dependence 18%
- Special problems: tics/Tourette's  
autistic spectrum  
aggression

## Differential Diagnosis

### 1. Chaos

lack of “containment” leads to problems in self-regulation

- a. mood
- b. impulsivity

### 2. Anxiety

### 3. PTSD

### 4. Agitated depression

### 5. Mania

## Cognitive-Behavioral Therapy

### Behavioral

- Create behavioral records in office
- Practice successful behaviors
- Engage outside observer/helper if possible
- Link behaviors with thoughts
- Link successful behaviors with immediate rewards

**ADHD behaviors**  
Scattering “stuff”  
to look for something

**Successful behaviors**  
Touch it then place it

Start it

Finish it

Arrive late

Arrive early

## Neurobiology

- Dorsal prefrontal cortex
  - organization
  - planning
  - working memory
  - Attention
- Prefrontal orbital cortex
  - impulse control
  - social disinhibition
- Caudate, putamen, globus pallidus

## • Dopamine

- Enhance signals
- Improve attention, focus

## • Norepinephrine

- Dampens noise
- Decrease distractibility
  - Increase cognitive/motor inhibitions

## Genetics

- Heritability 77%
- 50% children of ADHD parents
- Mediated by many genes with small effects

## Treatment Goals

- Specific target symptoms
- Functional impairments
- Comorbidities

- Medications
- Psychosocial interventions
  - Cognitive behavior therapy (adolescents, adults)
  - Self-management skills training
  - Environmental manipulations
  - ADHD coaching
  - Psychoeducation
  - Vocational counseling
  - Individual therapy
  - Marital therapy
  - Family therapy

## Adolescents and Adults

- CBT
  - Concrete strategies for coping
  - Executive function coaching
    - Time management
    - Planning
    - Organizational skills

## Pharmacotherapy

- First-line
  - Stimulants
    - Methylphenidate
    - Amphetamines
- Second-line
  - Atomoxetine (Strattera)
- Third-line
  - Antidepressants (Wellbutrin)
  - Antihypertensives (Clonidine)

## Adherence

- Non-adherent after 2 months
  - 88% of adults
  - 84% of children
- Less likely with greater symptom severity