



ADHD Management Options

Tanikqua D. Moore, MD, FAAP

Physician and owner of FOCUS-MD Birmingham

Dedicated to the diagnosis and treatment of ADHD



Objectives

- Defining Attention Deficit Hyperactive Disorder
- Discuss how to evaluate ADHD
- Discuss ADHD management options



What is ADHD?

Attention-Deficit/Hyperactivity disorder



3 Hallmark Symptoms

- Inattention
- Hyperactivity
- Impulsivity

3 Hallmark Symptoms

- Inattention



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5884954/>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6525148/>

3 Hallmark Symptoms

- Hyperactivity





What is Attention-Deficit/ Hyperactivity Disorder ?

- ADHD is a **complex**
- ADHD is **heterogeneous** - different gene mutations (changes) cause the same condition
- ADHD is a **multifactorial** neurodevelopmental disorder, one of the MOST common neurodevelopmental disorders



What is Attention-Deficit/ Hyperactivity Disorder ?

- Brain **Chemistry**
- Neurotransmitters (chemicals) that carry messages to brain cells (neurons) are not working correctly
 - Dopamine
 - Norepinephrine



Is ADHD new?

No.

It's been around...

Table 1

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4694551/>

Ref.	Year	Term
Melchior Adam Weikard[39,41]	1775	Attention Deficit (“Mangel der Aufmerksamkeit” or “Attentio Volubilis”)
Alexander Crichton[46]	1798	Disease of attention
Benjamin Rush[53]	1812	A syndrome involving inability to focus attention
Charles West[55]	1848	The nervous child
Heinrich Neumann[67]	1859	Hypermetamorphosis
Désiré-Magloire Bourneville[69,70]	1885	Mental instability
Thomas Clifford Albutt[57]	1892	Unstable nervous system
Thomas Smith Clouston[63]	1899	Simple hyperexcitability
George F Still[15]	1902	Abnormal defect of moral control

Evaluation

- Diagnostic and Statistical Manual of Mental Disorders (DSM)
 - A. Symptom onset by 12 years
 - B. Duration of symptoms >6 months
 - C. 12/18 symptoms or 6/9 inattentive symptoms occur often or very often-too often!
 - D. Symptoms affect the patient in 2 or more ways/ environments
 - E. Symptoms are not better explained by something else



Evaluation

- Thorough History
 - Time with the patient and family
- Physical Exam
- FDA cleared testing that measures ADHD neurology-movement and visual attention
- Discussion of the findings
- Reassurance and/or referral if ADHD is not the problem

Evaluation

US_Test1Child1


File file:///C:/Users/twall/Downloads/Sample%20Test.pdf

Log Log-in - HealthFusi... Epocrates Online Mail - tmoore@foc... QuickBooks Online... Yahoo - login STI InformationNow... Fidgets For Hair Pull... iNow All Bookmarks

US_Test1Child1 2 / 2 80%

Your QbTest results from MM.DD.YYYY at 9:25 am

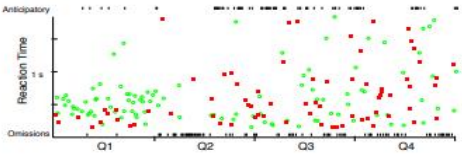
Activity



15 min

Your test result, expressed as QbActivity, was 2.6. In the control group*, 99% were less active than you were during the test.

Attention & Impulsivity




Your test result, expressed as Qbnattention, was 4.1. In the control group*, 99% were more attentive than you were during the test.

The test result, expressed as Qbimpulsivity, was 1.7. In the control group*, 96% were less impulsive than you were during the test.

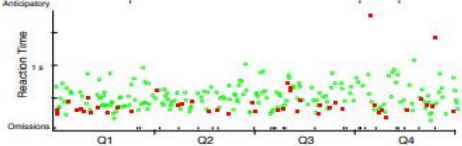
Examples from the control group: boys 8 year

Activity



15 min

Attention & Impulsivity



The graphs above show examples of QbTest results in the areas of activity, inattention and

*Control group consists of boys of your age who have completed the QbTest. None in the control group meets the criteria for ADHD diagnosis.

5:16 PM 3/8/2024

Evaluation

Male - 7y 6m 5d Oct 6, 2023 at 9:22 AM

Session and Response Validity

CAUTION: There are important response validity issues that affect the interpretation of this test. Please see the Validity section of the Interpretation Notes page.

T.O.V.A. Interpretation

The results of this T.O.V.A. are not within normal limits, and may be suggestive of a possible attention deficit, including ADHD. Please see the Interpretation Notes page for additional information.

Treatment

No treatments entered.

Comparison to the Normative Sample

These scores compare this subject's performance to the performance of individuals of the same gender and age in the T.O.V.A. Normative Sample, a study of individuals who did not have attention problems.

Results are reported as standard scores (average = 100 with a standard deviation of 15) and are compared to a large normative sample stratified by gender and age. Scores above 85 are within normal limits, 80-85 are borderline, and below 80 are not within normal limits. See the Interpretation Notes page and the Analyzed Data page for more detailed information on these variables and on the subject's performance.

RT Variability

Quarter	SS	%ile
Q1	64	1%
Q2	87	19%
Q3	43	0%
Q4	63	1%

Response Time

Quarter	SS	%ile
Q1	72	3%
Q2	93	32%
Q3	99	47%
Q4	110	75%

Commission Errors

Quarter	SS	#
Q1	42	18
Q2	52	15
Q3	103	4
Q4	116	0

Omission Errors

Quarter	SS	#
Q1	<40	11
Q2	<40	26
Q3	54	68
Q4	<40	108

▲ Above graph ▼ Below graph -- Borderline - - Not within normal limits ■ Valid quarter □ Interrupted quarter



ADHD Management Options

- Medication
- Behavior Therapy
- School Accommodations
- Combination Therapy

Medication

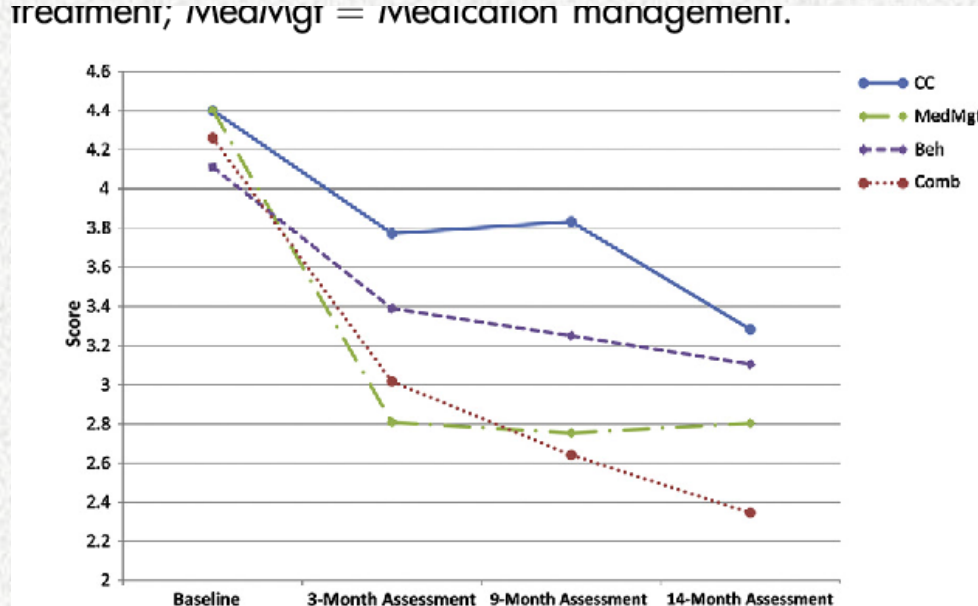


Fears of Medication



MTA Study

treatment; med/mgt = medication management.



[https://www.semanticscholar.org/paper/Treatment-of-Children-With-Attention-Deficit-\(ADHD\)-Cruz-Simonoff/1fff05f04240e7c9f2acfa5ffd21b5ee62565b9a](https://www.semanticscholar.org/paper/Treatment-of-Children-With-Attention-Deficit-(ADHD)-Cruz-Simonoff/1fff05f04240e7c9f2acfa5ffd21b5ee62565b9a)

focus_{MD} Good vs. BAD

Good Medications

- Concerta
- Focalin XR
- Metadate
- Ritalin
- Vyvanse
- Adderall XR
- Adderall
- Quillivant
- Strattera

Bad Medications

- Concerta
- Focalin XR
- Metadate
- Ritalin
- Vyvanse
- Adderall XR
- Adderall
- Quillivant
- Strattera

Medication Options

Stimulant Medication

- First line treatment for ADHD
- Effects can be seen the first day
- Has a strict on/off time
- Does NOT *have* to be taken everyday

Non-stimulant Medications

- Second line treatment for ADHD
- Takes time to notice effects
 - Some 1-2 weeks and some 4-6 weeks
- Does have to be taken everyday

STIMULANTS

AMPHETAMINES

- Adderall and Adderall XR
- Dextroamphetamine
- Vyvanse
- Evekeo
- Adzenys
- Dyanavel (pill or liquid)

METHYLPHENIDATE

- Ritalin and Ritalin LA
- Focalin and Focalin XR
- Metadate CD/ER
- Concerta
- Daytrana (patch)
- Quillivant XR (liquid)
- Quillichew
- Azstarys
- Jornay
- Cotempla...



Non-stimulant Medications

- Strattera
- Intuniv
- Kapvay
- Qelbree
- Wellbutrin (off label)



Side effects

- Appetite suppression
- Sleep disturbance
- Mood changes
- Skin picking, hair pulling
- Tics
- Headaches/stomachaches
- Elevated heartrate/blood pressure



School Accommodations

- IEP – Individualized Education plan
- 504 plan - Section 504 of the Rehabilitation Act of 1973



Psychotherapy

- Behavioral Therapy
- Cognitive Behavioral Therapy
- Family and Marital Therapy
- Parenting skills training

• https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd#part_2291



Long Term Benefits Treatment

Benefits for children

- Improved Academic Performance
- Half as likely to repeat a grade
- Better self esteem

Benefits for late teens and early adults

- Less anxiety
- Less depression
- Less substance abuse/addiction



Long Term Risks of No Treatment

- Twice as likely to fail a grade
- Worse or decline in academic performance in middle school
- More depression
- More anxiety
- Less self esteem
- More drug abuse and addiction
- More accidents



Focus-MD Birmingham Can Help!

Visit our Website: adhdbirmingham.com

Questions/Comments: tmoore@focus-md.com